The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. 93, No. 6 CHICAGO, ILLINOIS AUGUST 10, 1929

DIABETIC COMA *

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Diabetic coma is just as much of an emergency as acute appendicitis or an incarcerated hernia and, as in the latter condition, with every hour that passes without treatment the chances of life decrease. It is early intervention that counts.

What is coma? Is it due entirely to a progressive rise of blood sugar from any cause? These are questions often asked by patients.

While a rise of blood sugar usually accompanies coma, it is not a cause of coma. The blood sugar may be 300 or 400 mg. per hundred cubic centimeters,[1] or it can be as high as 1,710 mg. per hundred cubic centimeters.[2] It may even be normal. There is no level of blood sugar which is pathognomonic of coma, as may be seen by an examination of table 1.

Is coma the result of intoxication with acetone bodies?

As clinical observations indicate, and as Allen and Wishart [3] have shown in their extensive experimental work on dogs, this fatal disorder is not the result of a mere intoxication with acetone bodies or of poisoning with acid but is due rather to some metabolic derangement of which the chemical signs are only a superficial and variable expression.

CHARACTERISTICS OF COMA

Coma has been known as a pathologic entity since 1854, when a German, von Dusch, and a Scotchman named Marsh first described it. Twenty years later, Kussmaul published his classic description of coma. It is the "Kussmaul breathing"—the "Grosse Atmung"—as described by the author, which is the outstanding and characteristic feature of coma. This breathing is characterized by deep, slow and prolonged inspiration, and short expiration, with a short pause between. It is as if the patient had some big load on his chest which he was trying to throw off. As the coma continues, the respirations become increased in frequency. Before the discovery of insulin, such breathing might continue for several days, finally disappearing as death approached. The patient is somewhat restless, and on pressure over the upper portion of the abdomen, pain can often be elicited. At the onset of coma, headache is often complained of. The temperature is decreased, and in the preagonal stage it again rises. Patellar reflexes disappear (in severe cases of diabetes they may disappear even before coma develops). The eyes present narrowed pupils, or constriction and dilatation of the pupils may alternate, whereas in uremia they are dilated. The eyeballs are soft and grow progressively more so as the coma deepens. The Löwy reaction is positive; that is, the pupils dilate when epinephrine is injected into the conjunctival sac, a phenomenon that is supposed to be pathognomonic of pancreas insufficiency. The blood pressure is lowered, this being due chiefly to cardiac weakness and to the dehydration of the body as a whole. Vomiting, together with the increased respiration, brings about a further loss of water.

TABLE 1.—*The Blood Sugar Level at the Onset of Coma in Eighty-Two Cases*

	Blood Sugar										
	100 to 200	201 to 300	301 to 400	401 to 500	501 to 600	601 to 700	701 to 800	801 to 900	901 to 1,000	1,001 to 1,100	1,601 to 1,700
Number of cases.....	1	3	17	29	10	8	6	5	1	1	1

TABLE 2.—*Lipemia Associated with Coma (Author's Series)*

Age of Patient	Sex*	Duration of Lipemia	Units of Insulin Administered	Average Number of Units of Insulin Daily
37	♂	1.5	600	400
16	♀	9	610	67
35	♂	11	830	75

* In this column, ♂ stands for male; ♀, female.

The onset of coma may be very rapid, or it may be quite gradual, extending over several days. Von Noorden [4] described several cases in which the onset of coma was rapid. One of these was the case of a bank director in apparent good health who came home after a stormy meeting, and had his servant serve his dinner and leave him. When the servant returned to clear away the dishes, he found his master on a sofa in coma. The same author mentions like acute onsets of coma in workers with aniline dyes. Joslin and White report nine cases in which the presence of diabetes was first discovered when the patients were in coma. I have seen two such cases. The first was that of a girl, aged 16 years, in whom a positive diagnosis of diabetes had not been made. On the morning after a day in which she had been in school all day as usual, she did not feel well; at 11 o'clock she began to vomit, and at 3 o'clock in the afternoon she was dead.

* From the Cleveland Clinic.

1. John H. J.: Diabetes: A Statistical Study of Two Thousand Cases, Arch. Int. Med. **42**: 217-247 (Aug.) 1928.
2. Argy, W. P.: Hyperglycemia (1.71 per Cent with Coma) Associated with Absence of Acetone in the Urine, Boston M. & S. J. **193**: 1236-1237 (Dec. 31) 1925.
3. Allen, F. M., and Wishart, M. B.: Experimental Studies in Diabetes: Acidosis: Acidoses in Phlorizinized Dogs, J. Metab. Research **4**: 223-254 (July-Aug.) 1923.
4. Von Noorden: Die Zuckerkrankheit, ed. 7, Berlin, 1917.

The other case was that of an athletic girl, aged 15 years, in whom the presence of diabetes was not even suspected, as no symptoms whatever of diabetes were present. On one day she had some gastro-intestinal disturbance and the following morning she was in coma, but as the result of prompt intervention she quickly recovered.

While the "Kussmaul breathing" is a characteristic feature of coma, this may also be absent, as in Frerich's case. Joslin [5] has noted absence of Kussmaul breathing in two cases of coma, and recently I have seen a case in which it was absent—that of a patient with a blood sugar of 1,032 mg. who was in deep coma.

DIAGNOSIS AND CAUSES OF COMA

The diagnosis of coma may be made in the presence of the following conditions:

1. Kussmaul breathing, with an acetone odor.
2. Acetonuria and casts in the urine.
3. Hyperglycemia.
4. Acetonemia and low carbon dioxide content of plasma.
5. Lipoids and fat in the blood (these may be absent).

a trace in two cases. I found lipemia in only three of a series of seventy-one cases. The length of time during which lipemia persists under treatment varies a great deal; the shortest time in my series was five days, and the longest eleven days (table 2).

Glycosuria also may not be marked, and it may even be absent; even in the preinsulin days coma sometimes occurred without glycosuria (von Noorden). Nowadays if, as often happens, the patient has received much insulin before he is seen by the physician, there may be only a trace of sugar in the urine, or none whatever. This is also true of carbon dioxide.

The most frequent causes of diabetic coma are infection, lapses of diet and the omission of insulin. Ether and chloroform anesthesia may be contributory factors, inhalation anesthesia being sometimes administered because of lack of knowledge of the diabetic status of the patient. The autointoxication resulting from constipation may also be a causative factor, as may vomiting, parturition and physical or psychic trauma.

The differential diagnosis of diabetic coma may sometimes be difficult (table 3). Diabetic coma may be

TABLE 3.—*Differential Diagnosis of Coma*

	Eyes	Breathing	Glycosuria	Blood Urea	Blood Sugar	Onset	Headache	Acetone	Carbon Dioxide	Comment
Diabetic coma	Soft eyeballs	Kussmaul	Marked	Normal or high	Normal or high	Rapid or gradual	Present	Present in breath, urine and blood	Low	Low blood pressure, vomiting often present
Nephritic coma (uremia)	Pupils usually dilated; albuminuric retinitis; edema	Stertorous	Usually present but may be absent	High	Normal or slight rise	Gradual	Present	Present in breath, urine and blood	Normal	Pressure on lumbar puncture but clear fluid; high blood pressure
Cerebral hemorrhage	Pupils dilated and unequal; conjugate deviation	Stertorous and slow; sphittering relaxed and foam-covered lips	Usually present but may be absent	Normal	Normal or slight rise	Rapid	Present	.....	Normal	Unequal resistance of limbs on lifting; high blood pressure
Fracture of skull	Early dilatation of pupils	.....	May be present	Normal	Normal or slight rise	Rapid	Present	.....	Normal	Roentgen examination of skull will establish diagnosis
Brain tumor	Choked disk; visual field changes	Normal	None	Normal	Normal or slight rise	Slow	Persistent or paroxysmal; often violent	.....	Normal	Apathy; projectile vomiting at its maximum in a. m.
Meningitis	Pupillary changes; dilated or unequal pupils	Rapid	Present	Normal	Normal or slight rise	Sudden	Present	.....	Normal	Koenig sign; lumbar puncture; leukocytosis; fever
Insulin reaction	No eye changes	Normal	Absent after second catheterization	Normal	Low, though a high figure may be encountered	Sudden	None	May be present	Normal	

While these are usual, one must bear in mind that one or more may be lacking. Coma without acetonuria has been described in the literature by Lorant,[6] Lemann,[7] Starr and Fitz [8] (seven cases), Oliver,[9] Argy,[2] Paddock,[10] McCaskey,[11] Evans,[12] Rudy and Levin,[13] and Appel and Cooper.[14] In my own series, acetonuria was absent in four cases and there was only

differentiated from insulin "shock" by the fact that the latter is not likely to occur in a dehydrated patient with a dry, parched tongue. In the insulin reaction, the skin is moist and the breathing is quiet, not labored. A history of the patient having taken insulin is, of course, the most important evidence that one is dealing with an insulin reaction rather than coma. But as this information cannot always be elicited, it is safer to depend on determination of the blood sugar and carbon dioxide, and if this cannot be done, then it is necessary to resort to catheterization. If the urine is aglycosuric and no diacetic acid is present, one can be fairly certain that one is dealing with hypoglycemic shock; if it contains sugar but no diacetic acid is present, and the history is that the patient has taken insulin, then orange juice or, better still, two teaspoonfuls of sugar and one teaspoonful of whisky in half a cup of hot water should be given, and the bladder again catheterized in a few minutes. If this second specimen contains no sugar, or only a trace, one can be quite certain that the condition is an insulin reaction and not coma, and the continua-

5. Joslin, E. P.; Root, H. F., and White, Priscilla: Diabetic Coma and Its Treatment, M. Clin. North America **8:** 1873-1919 (May) 1925; **10:** 1281-1305 (March) 1927.
6. Lorant, I.: Coma Diabeticorium, Klin. Wchnschr. **5:** 209-248, 1926.
7. Lemann, I. L.: Pitfalls in the Diagnosis of Diabetic Coma, M. Clin. North America **9:** 959-969 (Jan.) 1926.
8. Starr, Paul; and Fitz, Reginald: Excretion of Organic Acids in the Urine of Patients with Diabetes Mellitus, Arch. Int Med. **33:** 97-108 (Jan.) 1924.
9. Oliver, T. H.: Diabetic Coma Without Acetonuria, Lancet **1:** 750 (April 10) 1926.
10. Paddock, B. W.: Fatal Case of Diabetic Coma Without Ketosis, J. A. M. A. **82:** 1855-1856 (June 7) 1924.
11. McCaskey, G. W.: Coma in a Fatal Case of Diabetes Without Diacetic or Beta-Oxybutyric Acid, J. A. M. A. **66:** 350 (Jan. 29) 1916.
12. Evans, G.: Diabetic Coma Without Ketonuria, Lancet **1:** 77 (Jan. 10) 1925.
13. Rudy, A., and Levin, C. M.: Unusual Case of Diabetic Acidosis Without Ketonuria or Ketonemia, New York State J. Med. **27:** 1240-1243 (Nov. 15) 1927.
14. Appel, K. E., and Cooper, D. A.: Diabetic Acidosis with Negative Ferric Chloride Reaction in Urine, Am. J. M. Sc. **173:** 201-220 (Feb.) 1927.

tion of carbohydrates by mouth or dextrose intravenously will quickly restore the patient.

TREATMENT

With experience, it is not difficult to diagnose a case of diabetic coma at first sight, for the picture, as has been described, is quite characteristic. If one is in doubt, and if the patient has had some insulin, whisky

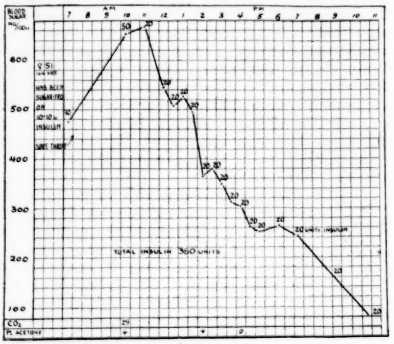

Chart 1.—Insulin dosage in case of diabetes in which acidosis followed the onset of an infection.

should be given in sweetened water or orange juice until the diagnosis is established; for even should the condition be diabetic coma, this treatment will not have done any harm, and within thirty minutes it should be possible to establish a definite diagnosis. If the condition is diabetic coma, then insulin is the most important medicament. I give 40 units intravenously and get the blood sugar, acetone and carbon dioxide readings, a procedure which takes twenty-five minutes.

In the meantime, the nurse gives an enema, the patient is kept warm by plenty of hot water bottles and blankets, he is given warm water to drink, and, if he is dehydrated, hypodermoclysis is started. If the patient is vomiting, a gastric lavage with warm and slightly alkalized water is given, the last bulbful being left in the stomach. Sometimes I give from 30 to 40 cc. of castor oil through the lavage tube when the lavage is completed. Following this, the patient is given intravenously 250 cc. of a 10 per cent solution of dextrose to which from 50 to 100 units of insulin has been added. This may be done two or even three times during the first twenty-four hours, but often the first treatment is all that is necessary. An ampule of caffeine sodiobenzoate (7.5 grains, or 0.5 Gm.) is given in the dextrose solution, and if the patient is restless, morphine (¼ grain or 16 mg.) is administered. If the patient has an infection of any kind, such as a carbuncle or pneumonia, it is very important to secure a blood culture at this time. The insulin is given intravenously or hypodermically at intervals of one-half hour or one hour, according to the observations of the blood sugar examinations, which should be made at least hourly, the dosage of insulin also depending on the result of the blood examination. Usually 20 units is given every half hour until the blood sugar drops to 250 mg. per hundred cubic centimeters, or less, when it is given less frequently—every one or two hours, according to the repeated blood sugar observations.

It is feared by many that overinsulinization of a patient in diabetic coma may bring on insulin shock. I have yet to see a patient die of hypoglycemia. It is not that I wish to advocate a foolhardy and reckless use of insulin, but it should be realized that there is much more danger from not using enough insulin in a case of diabetic coma, which is the most acute emergency that occurs in diabetes, than in using too much. One cannot evaluate the dosage of insulin in coma by the same standards as those which rule its administration to routine diabetic patients. A patient in coma, especially if he has an infection, soaks up insulin like a sponge; that is, insulin does not seem to produce the same effect per unit as in the ordinary case. I can illustrate this best by an example:

A woman, aged 51, had been taking 10 units of insulin twice a day and keeping sugar free. Her throat became sore and acidosis developed. The blood sugar rose to 476 mg. per hundred cubic centimeters, the plasma acetone was 3 plus, and the carbon dioxide 29 three hours after the patient had received 10 units of insulin. The insulin dosage was at once increased and in twenty-four hours she received 380 units (chart 1) before the blood sugar dropped to normal. And yet two days before the sore throat developed she had an insulin reaction if the insulin dosage was increased by 5 units.

This shows the change in the status of a diabetic patient when acidosis develops, and the resultant increased need for insulin.

DOSAGE OF INSULIN

There is no exact dosage of insulin for a patient in coma; one can only say that enough insulin should be given to control the condition, whether it is 100 or 1,000 units in twenty-four hours.

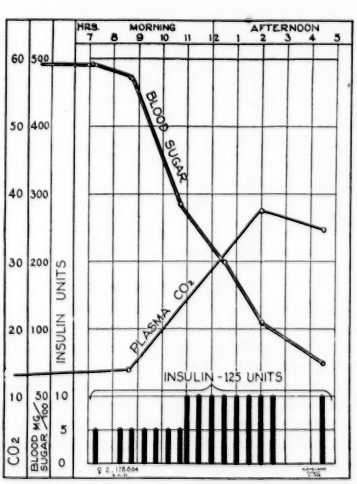

Chart 2.—Insulin dosage in case of diabetic coma in child, aged 2 years.

Chart 2 shows the amount of insulin used in the case of a girl, aged 2 years, who was in coma. Even in this child it took 125 units in nine hours to bring the blood sugar within normal limits. A contrast to this picture is offered by chart 3, which shows the amount of insulin given in the case of a woman, aged 45, who was in

coma with the blood sugar amounting to 894 mg. per hundred cubic centimeters, the carbon dioxide, 10.9, and the plasma acetone, 4 plus. This patient received a total of 650 units of insulin during twelve hours before her blood sugar reached the normal level and the carbon dioxide rose to normal.

TABLE 4.—*Insulin Dosage in a Case of Diabetic Coma (Girl, Aged Fifteen Years)*

Day	Insulin Units	Day	Insulin Units
1	220	11	30
2	110	12	30
3	130	13	30
4	140	14	30
5	125	15	30
6	80	16	25
7	80	24	10
8	80	28	5
9	80	65	0
10	50		

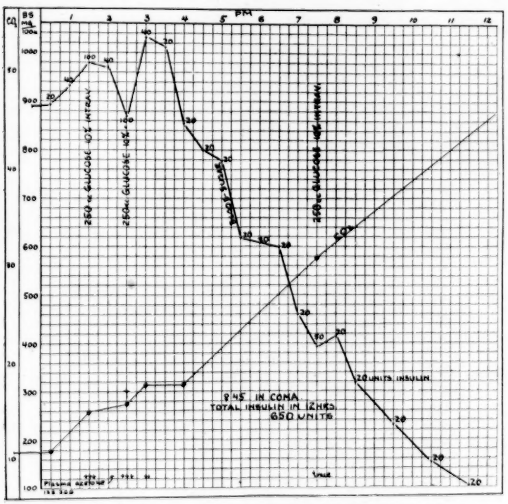

Chart 3.—Insulin dosage in case of diabetic coma in a man, aged 45.

EFFECTS OF INSULIN

The effects of insulin vary much from day to day in cases of diabetes even when there is no coma, as I have pointed out in previous publications.[15] This point is well illustrated by chart 4. If such a state of affairs exists in an uncomplicated diabetic case, how much greater must be, and is, this uncertain factor in such a condition as coma. That is the very reason why one cannot make a hard and fast rule about the dosage of insulin in cases of coma.

The apparently slight injury to the pancreas which may be present in cases of diabetic coma is illustrated by the study of a case of diabetes in a girl, aged 15 years, in whom the diabetes was first discovered when she was in coma. No symptoms of diabetes had been noted previous to this attack, and she was apparently in perfect health. Coma was precipitated by a gastrointestinal disturbance. I saw her one hour after the physician had given her 40 units of insulin and at this time her blood sugar was 460. After 110 units of insulin had been given, the carbon dioxide was 38.5 and the plasma acetone 3 plus. Table 4 shows the rapid decrease in the insulin requirement. After a stay of sixteen days in the hospital, she was discharged on 25 units of insulin, in three doses of 5, 10 and 10 units, respectively. Three weeks later, this was reduced to 10 units in two doses of 5 units each. A week later, the insulin dosage was cut to 5 units a day, and a week after that it was omitted altogether. The patient is maintaining a normal blood sugar level, as is indicated by three blood sugar checks (morning, noon and evening). Her diet consists of 100 Gm. of carbohydrates, 60 Gm. of protein and 128 Gm. of fat, a total of 1,800 calories.

Such a rapid regaining of dextrose tolerance after coma is a very encouraging feature, and it emphasizes the importance of a close and careful following up of the patient. That is, one should not be contented with one examination of the fasting blood sugar but should check the blood sugar three times daily to make sure that hyperglycemia does not exist at any time, thus avoiding diminishing the insulin dosage too early.

In contrast to the case in which the pancreas was but slightly impaired is the case of a youth, aged 18, who four years before coma developed maintained a normal blood sugar for two years without insulin on a diet of 2,500 calories (carbohydrates 100 Gm., protein 85 Gm. and fat 195 Gm.). Carelessness in diet brought on an attack of coma four years after the onset of diabetes.

Attention is called to the difference between this and the preceding case: Whereas the girl was discharged on a dosage of only 20 units of insulin, which was soon discontinued, the boy was discharged on a dosage of 100 units of insulin (in three doses of 40, 30 and 30 units, respectively), and even with this he still has a high blood sugar content. However, this patient is careless about his diet, and has had two attacks of coma (table 5).

ADMINISTRATION OF DEXTROSE

Opinions as to whether or not dextrose should be given intravenously are about equally divided among different workers. An individual with a blood sugar of 600 has a total of 30 Gm. of dextrose in his circulation. If 250 cc. of a 10 per cent solution of dextrose

TABLE 5.—*Insulin Dosage in a Case of Diabetic Coma (Youth Aged Eighteen Years)*

Day	Insulin Units	Day	Insulin Units
1	415	11	150
2	280	12	150
3	160	13	150
4	180	14	150
5	180	15	150
6	120	16	150
7	150	17	150
8	150	18	150
9	150	19	100
10	150	20	100

Still taking 100 units two years later

15. John, H. J.: Time Relation of Fall of Blood Sugar with Insulin, J. Metab. Research **1**: 121-133 (Sept.-Oct.) 1923; Variations in Blood Sugar Content Following the Administration of Insulin, J. Lab. & Clin. Med. **11**: 548-560 (March) 1926.

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is given intravenously, 25 more grams of dextrose is added, so that 55 Gm. is in circulation. To take care of this amount of dextrose, about 28 units of insulin would be required. If from 50 to 100 units of insulin is added to the solution, it is more than enough to take care of this amount of added carbohydrate. That the added dextrose does not embarrass the patient is evi-

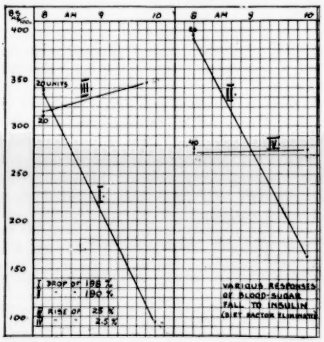

Chart 4.—Variation in response to insulin in four cases of diabetes.

denced by the subsequent steady fall of the blood sugar content, the disappearance of acetone and the rise of carbon dioxide. The purpose of the dextrose solution is to add fluid to the dehydrated body, to increase the excretion of urine, which is usually markedly lowered, and through this to wash out a certain amount of acid bodies. By means of dextrose, oxidation in the blood stream and the tissues is increased, and this increased oxidation helps to burn up acid bodies. The glycogen-poor liver also is restocked with glycogen, which in itself is an important factor in lessening the acidosis, and the heart muscle is also restocked with glycogen.

The use of alkalis in large quantities has been abandoned by most workers. A simple experiment by Goldblatt[16] is instructive. He induced ketosis by starving himself for forty-eight hours. At the end of this period, the urine contained fairly large amounts of acetone and diacetic acid. After he had taken 50 Gm. of dextrose, the ketosis disappeared in one hour. When, in addition to the dextrose, a large dose of sodium bicarbonate was taken, the ketosis persisted for a long time and was still definitely present after eight hours. At any rate, the fact that before insulin was used alkalis had been used universally, and found of no value, ought to be sufficient therapeutic evidence for their disuse.

COMPLICATIONS

Oliguria and even anuria occasionally accompany coma, for the kidneys have to bear the brunt of the ketosis, as is indicated by the finding of casts with adhering epithelial cells in the urine. Imrie and Skinner,[17] Begg,[18] Kraus and Selye,[19] and Joslin[20] report cases in which this has occurred. In 1925 I[21] reported a similar case in which the suppression of urine was not complete, but a marked oliguria was present, the phenolsulphonphthalein test was zero, and the blood urea rose as high as 255 mg. per hundred cubic centimeters (chart 5). After the use of Fisher's solution intravenously, a normal state was reestablished. One should bear in mind that this complication may occur.

MORTALITY AND INCIDENCE OF COMA

Before insulin was used, the mortality rate accompanying coma was practically 100 per cent. This high rate has now been markedly reduced, the average mortality rate of cases reported in the literature being about 25 per cent (table 6). This is a tremendous gain and the figure will no doubt improve with time; but I doubt whether we shall ever reach Joslin's ideal of a mortality rate of zero.

The incidence of coma in my total series of cases of diabetes has been 4 per cent, and the mortality rate among these cases has been 5.6 per cent (table 7).

PRECAUTIONS

Thus far I have discussed the things that should be done in a case of coma. I shall now consider briefly a few "don'ts."

1. Coma is an acute emergency; therefore one should not delay and should answer immediately a call to a patient in coma.

2. If one is reasonably certain that the condition is coma, the administration of insulin should not be delayed. One should not wait to examine the blood but should give insulin first and examine the blood afterward. If the patient must come to the physician from a distance in an ambulance, one should direct that he be given 40 units of insulin before starting, and 20 units every half hour or every hour until he arrives, or at least until there is a decided clinical improvement.

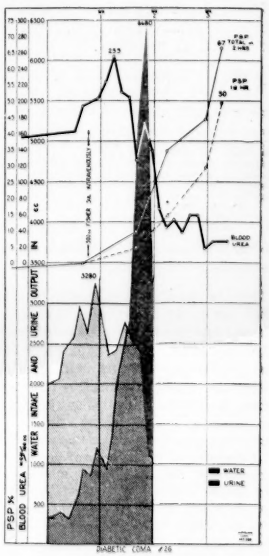

Chart 5.—Water intake and urine output in a case of diabetic coma in a man, aged 26.

3. One should not ignore or miss the presence of an acute infection such as appendicitis or otitis media in a child.

4. If the patient is dehydrated and is vomiting, the stomach should be washed out and water given freely, followed by a hypodermoclysis of 2,000 cc.

16. Goldblatt, cited by Maclean, H.: Modern Methods in the Diagnosis and Treatment of Glycosuria and Diabetes, London, Constable & Co., 1927, p. 201.
17. Imrie, C. G., and Skinner, E. F.: Diabetic Coma with Anuria, Lancet **1**: 14-16 (Jan. 5) 1924.
18. Begg, A. C.: Anuric Diabetic Coma, Lancet **2**: 69-70 (July 11) 1925.
19. Kraus, E. J., and Selye, H.: Über die Veränderungen der Niere beim insulinbehandelten Coma diabeticum mit Ausgang in Uramie, Klin. Wchnschr. **7**: 1627-1630 (Aug. 26) 1928.
20. Joslin, E. P.: Treatment of Diabetes Mellitus, ed. 3, Philadelphia, Lea & Febiger, 1923, p. 84.
21. John, H. J.: Diabetic Coma Complicated by an Acute Retention of Urine, J. A. M. A. **84**: 1400-1401 (May 9) 1925.

5. Care must be taken not to miss the presence of a distended bladder. If there is a doubt, catheterization should be done.

6. If the patient seems to be moribund, one should not wash out the stomach unless it is distended. The patient's life may be lost by doing so.

TABLE 6.—*Statistics of Coma Mortality in the Literature*

Author	Cases of Coma	Died, per Cent	Year	Reference
Allen and Sherrill	9	55	....	Cited by Petrén
Banting and Campbell	16	40	....	Cited by Petrén
Blum and Schwab	6	33	....	Cited by Petrén
Bock, Field and Adair	7	28	1923	J. Metab. Research **4**: 27-64, 1913; cited by Petrén
Bunce, A. H.	3	0	1927	South. M. J. **20**: 341-342 (May) 1927
Campbell, W. R.	14	14	....	Cited by Petrén
Chabanier, H., and others	28	32	1927	Presse méd. **35**: 83-87 (Jan. 19) 1927
Elias, H.	25	52	1912-1913	Wien. med. Fakult., number 95
Elias, H.	42	24	1924-1925	Wien. med. Fakult., number 95
Foster, N. B.	20	10	1925	J. A. M. A. **84**: 719-722 (March 7) 1925
Foster, N. B.	15	46	1923	Tr. Am. Phys. **38**: 382-393, 1923
Joslin, E. P.	33	6	1925	Boston M. & S. J. **193**: 707-712 (Oct. 15) 1925
Petrén, K.	57	14	1927	Verhandl. d. Kong. f. inn. Med. Wiesbaden, 1927
Sansum and Blatherwick	5	40	....	Cited by Petrén
Strauss, H.	6	33	1927	Klin. Wehnschr. **6**: 296-299 (Feb. 12) 1927
John, H. J.	71	5.6	1929	As reported in this paper

7. One should not feel that all is well just because a patient responds quickly to treatment but should continue the routine treatment, for a relapse may follow a few hours of inactivity.

TABLE 7.—*Mortality Rate in Author's Series of Cases of Diabetic Coma*

Total number of diabetic patients	2,572	
Total number of cases of diabetic coma	103	
Incidence of coma		4%
Cases of diabetic coma treated by the author	71	
Cases of diabetic coma treated elsewhere	32	
Deaths from coma among cases treated by the author	4, or 5.6%	
Deaths from other causes	9, or 12.7%	
Pneumonia	2	
Cardiac failure	4	
Uremia	1	
Septicemia	2	
Deaths from coma among cases treated elsewhere	28, or 87.5%	

8. The patient should not be left until it is certain that the acute emergency has passed. Not until then should one place the responsibility on trained assistants, and no matter how experienced the assistants may be, definite instructions as to treatment should be given.

9. One should not fail to take a blood culture if the coma is due to some infection, such as a carbuncle or pneumonia.

Adenoids.—The majority of middle ear infections, frequently extending to the mastoid and internal ear and sometimes causing chronic deafness or fatal intracranial complications, develop as the result of inflamed and hypertrophied adenoid tissue in the pharynx. By obstructing the breathway and interfering with reception into the lungs, enlarged adenoid masses may actually reduce the opportunity for thorough aeration of the blood. This gives rise to early fatigue, congested head, sleepy eyes, aprosexia and may be a large factor in the production of severe neuroses, such as chorea and epilepsy. Adenoids may be the focus from which infections in other parts of the body arise, as is more frequently the case with the faucial tonsils. But because of their obscure situation the adenoids may escape scrutiny in this connection.—Boyce, S. R.: The Clinical Importance of Adenoids, *Wisconsin M. J.*, July, 1929.

FACIAL ERYSIPELAS

A STUDY OF TWO HUNDRED AND EIGHTY-ONE CASES TREATED AT THE MASSACHUSETTS GENERAL HOSPITAL FROM 1870 TO 1927 *

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Recent studies [1] in the serum treatment of erysipelas have caused a renewed interest in the natural history of the disease. A proper evaluation of the results of specific therapy requires familiarity with the course of a representative series of untreated cases. In order, therefore, to obtain such a perspective of the disease the case histories of patients with facial erysipelas cared for at the Massachusetts General Hospital from the year 1870 through 1927 have been analyzed according to the following categories:

1. Annual, monthly, sex and age incidence.
2. Previous attacks.
3. Incidence among the hospital personnel and evidences of cross-infection.
4. The division of patients into those admitted to the hospital with facial erysipelas and those whose facial erysipelas developed after entry.
5. Duration of the disease.
6. Types of fever.
7. The relation of the day of diagnosis to that of the onset of fever.
8. The death rate as influenced by coincident disease, sex, age and season.
9. The division of fatal cases into two groups: patients admitted to the hospital with facial erysipelas and those in whom the disease developed after admission.

The material has lent itself readily to such an analysis, as the histories have been carefully prepared. It represents a rather selected series, however, since the patients with erysipelas applying for treatment are not all automatically admitted to the hospital. Only patients previously cared for in the hospital and cases of erysipelas having an onset in the hospital, among personnel or patients, are treated there. This probably makes the incidence of erysipelas complicating other pathologic conditions considerably higher in this series than actually occurs at large.

The study has been limited to facial erysipelas because its clinical recognition offers little difficulty in contrast to the confusion that often arises in the diagnosis of body erysipelas. However, a similar study of body erysipelas is now being prepared.

ANNUAL INCIDENCE OF FACIAL ERYSIPELAS

A study of the hospital records as far back as 1840 failed to disclose any striking differences in the number and character of the epidemics in the past as compared with the present. The parallel study of body erysipelas corroborates this fact.

Chart 1 shows the relative frequency of facial erysipelas in terms of the total annual hospital admissions.

* From the Department of Surgery, Massachusetts General Hospital, and the Department of Preventive Medicine and Hygiene, Harvard University Medical School.

1. Birkhaug, K. E.: Erysipelas: Etiology and Treatment with Erysipelas Antistreptococcic Serum, J. A. M. A. **86**: 1411 (May 8) 1926. Symmers, Douglas; and Lewis, K. M.: The Antitoxin Treatment of Erysipelas: Observations in One Hundred and Thirty-One Patients at Bellevue Hospital, ibid. **89**: 880 (Sept. 10) 1927. McCann, W. S.: The Serum Treatment of Erysipelas, ibid. **91**: 78 (July 14) 1928. Symmers, Douglas: Antitoxin Treatment of Erysipelas: Results in Seven Hundred and Five Cases at Bellevue Hospital, ibid. **91**: 535 (Aug. 25) 1928.

The highest peak is in the 1904-1905 period and our figures for body erysipelas show a correspondingly high value for those years. From a detailed study of the case histories of this period there is no evidence that this high rate is due to hospital cross-infection. This increased frequency of the disease was found not only in patients entering with facial erysipelas but also among those cases appearing spontaneously in the wards. Furthermore, Laache [2] in his study of 14,804 cases of erysipelas of all types in Bergen and Christiania (Oslo) describes an unusually high incidence of the disease in the latter city in 1905.

MONTHLY INCIDENCE OF FACIAL ERYSIPELAS

By far the greater number of investigators have found that facial erysipelas is essentially a disease occurring in the colder months of the year. The studies of Erdman [3] at Bellevue Hospital in New York, and of Boston and Blackburn [4] at Philadelphia show that the highest frequency of the disease was in the first third of the year. Ker,[5] in describing experiences with erysipelas in England, has found that the period from October to January furnishes the highest case incidence. This is an interesting variation and recalls the same apparent seasonal difference in the frequency of rheumatic fever which obtains between England and the United States.

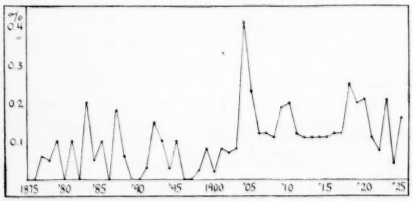


Chart 1.—Annual percentage of total admissions to Massachusetts General Hospital diagnosed as facial erysipelas.

Our figures show relatively few cases occurring from June to November. From this point on there is a sharp rise in the incidence of the disease which reaches a peak in March. Chart 2 illustrates this monthly variation. If these figures obtained at the Massachusetts General Hospital are compared with those reported by Meleney [6] at the Presbyterian Hospital of New York in his studies on hemolytic streptococcus infection, it is at once apparent that those months in which Meleney found a specially high incidence of hemolytic streptococcus surgical infections and a coincident high hemolytic streptococcus carrier frequency among the operating room personnel are essentially the months in which there is the highest rate of facial erysipelas at the Massachusetts General Hospital.

It is fair to conclude, therefore, that to the reasons usually ascribed for the seasonal incidence of facial erysipelas another factor should be added; namely, the increased number of hemolytic streptococcus carriers in the late winter and spring months who thus increase the opportunity for auto-infection and cross-infection.

SEX INCIDENCE OF FACIAL ERYSIPELAS

The literature is in agreement that in general there is a slight excess of male over female cases of erysipelas.

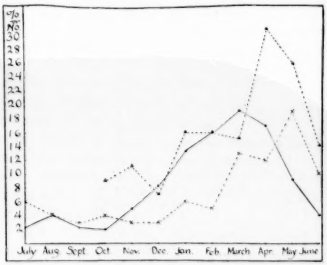


Chart 2.—Average monthly incidence of facial erysipelas (281 cases at the Massachusetts General Hospital): solid line, monthly incidence of the disease, 1870-1926, at the Massachusetts General Hospital; broken line with crosses, number of hemolytic streptococcus lesions in patients in the surgical wards of the Presbyterian Hospital, 1925-1926, after Meleney; heavier broken line with triangles, incidence of hemolytic streptococci in the throats of operating personnel, Presbyterian Hospital, 1925-1926, after Meleney.

This difference is usually interpreted as due to man's greater alcoholic consumption, his increased exposure to cold and wind, and his greater liability to scalp and facial injuries. Another factor of importance found in this series is the relatively larger number of facial operations in the male for carcinoma, which are occasionally followed by erysipelas. These will be considered in more detail later.

In this series 57 per cent of the patients are males and 43 per cent are females, a ratio which is in agreement with Erdman's and Boston and Blackburn's observations.

AGE INCIDENCE OF FACIAL ERYSIPELAS

Facial erysipelas attacks all ages, as has been clearly pointed out in many earlier descriptions of the disease.

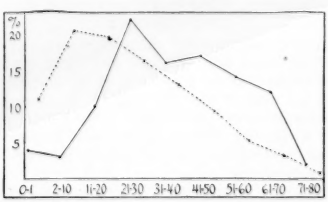


Chart 3.—Age incidence of facial erysipelas (281 cases at the Massachusetts General Hospital): solid line, age incidence of the disease; broken line, age incidence of American and English population (census figures noted by Minot and Isaacs).

Chart 3 presents the precentage of cases of the disease at this hospital falling in the various age groups. The broken line shows the age incidence of the living English and American population based on census figures described by Minot and Isaacs.[7]

2. Laache, S.: Erysipelas: Morbidity and Mortality, Norsk. Mag. f. Lagevidensk. **84**: 965 (Nov.) 1924.

3. Erdman, Seward: Erysipelas: Clinical Observations on Eight Hundred Cases, Including Ninety-Five Treated by Bacterial Vaccine and Twenty Treated by Phylacogen, J. A. M. A. **61**: 2048 (Dec. 6) 1913.

4. Boston, L. N., and Blackburn, A. E.: Erysipelas: A Statistical Study of Five Hundred and Sixty-Four Cases, J. A. M. A. **49**: 1520 (Nov. 2) 1907.

5. Ker, C. B.: Manual of Fevers, London, Oxford Medical Publications, ed. 2, pp. 271-283.

6. Meleney, F. L.: Seasonal Incidence of Hemolytic Streptococcus in Nose and Throat in Surgical Operating Personnel: Significance of Masking During Operation, J. A. M. A. **88**: 1392 (April 30) 1927.

7. Minot, G. R., and Isaacs, Raphael: Lymphatic Leukemia: Age Incidence, Duration, and Benefit Derived from Irradiation, Boston M. & S. J. **191**: 1 (July 3) 1924.

The greatest number of cases of facial erysipelas are found in the third decade of life, but relative to the number of those living in a given decade of life the most frequent sufferers from the disease are in the age group 61-70. The figures presented here for ages up to 10 years are of little significance because of the small children's service that was maintained at the hospital until recently.

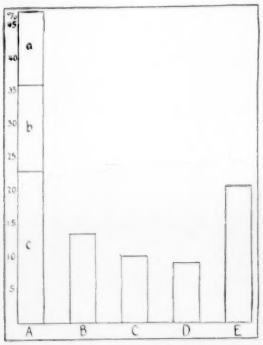


Chart 4.—Division of cases into patients admitted to the hospital with facial erysipelas and those in whom the disease developed after entry: *A*, cases of erysipelas developing after entry to Massachusetts General Hospital: (*a*) following nonfacial surgery, 11 per cent; (*b*) following facial surgery, 13 per cent; (*c*) cases in which operation was not performed, 23 per cent; *B*, cases of erysipelas occurring among Massachusetts General Hospital personnel; *C*, patients entering with erysipelas following operation in outpatient department or outside; *D*, patients entering with erysipelas following trauma; *E*, patients entering with uncomplicated erysipelas.

PREVIOUS ATTACKS

Ker[5] found a history of previous attacks in as many as 17 per cent of a series of 1,500 cases in London. Matthew Young,[8] in commenting on this figure, considers it low. Most observers record a relapse rate of from 5 to 20 per cent, and all agree that their experience suggests the higher value to be nearer the actual figure.

Our histories show previous attacks occurring in 8.2 per cent of the series. Of this group of twenty-three patients, twenty entered the hospital with the disease whereas the remaining three developed the disease during their stay in the hospital on account of another illness. One of the latter group developed erysipelas following an operative procedure on his face. One third of those patients who had been previously stricken with the disease had had two or more former attacks.

INCIDENCE OF FACIAL ERYSIPELAS AMONG THE HOSPITAL PERSONNEL; EVIDENCES OF CROSS-INFECTION

From 1870 through 1927, thirty-eight members of the hospital personnel were stricken with facial erysipelas. Chart 4 shows that the employees of the hospital make up 13.5 per cent of the total number of patients with facial erysipelas in our series. This group is consituated as follows: nurses, twenty-two; kitchen workers, maids and porters, twelve; laundry workers, three, and physicians, one.

In this entire number there is only one case in which cross-infection from a patient can be looked on as the certain source of the attack; but most of the histories are lacking in adequate information in this regard.

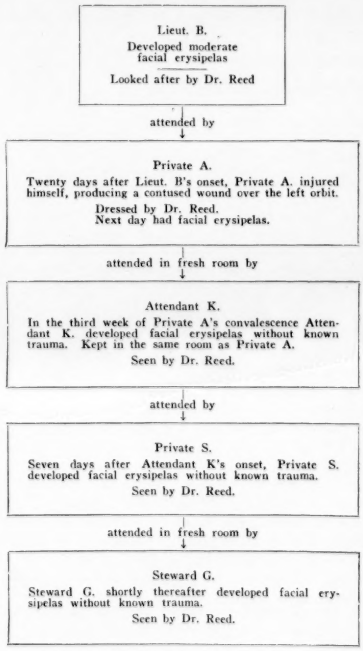
Hirsch[9] in 1855 said:

> The literature is full of references to the epidemics of erysipelas in hospitals. I may mention, by way of examples, Boinet's account for the Hotel Dieu of Paris relating to certain notorious wards in particular, that of Wells for various hospitals in London at the end of the last century (eighteenth) and beginning of the present, of Fenger for the Fredericks Hospital at Copenhagen, of Kern for the University Chirurgie at Marburg, of Reese for the Bellevue Hospital of New York, and many others.

The late Prof. J. C. White,[10] writing on the subject "Some Dangers of Infection Incidental to Professional Life," said:

> With regard to the contagious character of erysipelas, diverse opinions prevail. Common belief has it that there is a great danger of such communication, an opinion largely held apparently by our profession as well. I do not doubt the possibility of such transference but I believe that it rarely occurs. I refer to the ordinary superficial forms of the affection. In the great number of cases that I have treated I have not known a single instance in which a second member of the family, a nurse, or medical attendant has become infected.

Walter Reed, then a lieutenant in the medical corps, was struck by an experience of his which was in disagreement with White's conclusions. In a communication to the *Boston Medical and Surgical Journal* he[11] related a series of case histories, which can be best described diagrammatically.


Lieut. B.
Developed moderate facial erysipelas
Looked after by Dr. Reed
attended by
Private A.
Twenty days after Lieut. B's onset, Private A. injured himself, producing a contused wound over the left orbit.
Dressed by Dr. Reed.
Next day had facial erysipelas.
attended in fresh room by
Attendant K.
In the third week of Private A's convalescence Attendant K. developed facial erysipelas without known trauma. Kept in the same room as Private A.
Seen by Dr. Reed.
attended by
Private S.
Seven days after Attendant K's onset, Private S. developed facial erysipelas without known trauma.
Seen by Dr. Reed.
attended in fresh room by
Steward G.
Steward G. shortly thereafter developed facial erysipelas without known trauma.
Seen by Dr. Reed.

Reed's series of case histories.

There are a number of similar examples of hospital cross-infection in our series which also can best be described diagrammatically, as on the opposite page.

8. Young, Matthew: Statistical Study of Relapse in Enteric Fever and Erysipelas, J. Path. & Bact. **30:** 537 (July) 1927.
9. Hirsch, A.: Handbook of Geographical and Historical Pathology, London, Charles Creighton, 1885.
10. White, J. C.: Some Dangers of Infection Incidental to Professional Life, Boston M. & S. J. **126:** 116 (Feb. 4) 1892.
11. Reed, Walter: The Contagiousness of Erysipelas, Boston M. & S. J. **126:** 237, 1892.

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EXAMPLE 1.—*All Patients in Same Ward. Cases Occurred About the Same Time*

Patient E. A. T. Age 72.
Diagnosis: Carcinoma of stomach with metastases to liver.
12-20-23. Entered hospital.
1-10-24. "Developed erysipelas of nose," temperature slightly elevated.
1-26-24. Died while erysipelas was subsiding.

Patient R. J. B. Age 40.
Diagnosis: Hypertensive heart and kidney disease. Uremia.
11-20-23. Entered hospital.
1-10-24. Temperature, 100 F.
1-12-24. Developed rapidly spreading erysipelas of nose.
1-28-24. Died with erysipelas still present.

Patient J. B. Age 56.
Diagnosis: Coronary thrombosis.
12-21-23. Entered hospital.
1-12-24. Temperature, 101.
1-13-24. "Shows" definite erysipelas of face.
1-20-24. Died of heart failure though erysipelas was improving.

EXAMPLE 2.—*All Patients in Same Ward. Cases Did Not Occur at the Same Time*

Patient F. M. O. Age 51.
Diagnosis: Acute infectious arthritis.
3- 5-26. Entered hospital.
3-10-26. Temperature elevated.
3-13-26. Blood culture showed streptococcus hemolyticus in both flasks.
3-18-26. Typical facial erysipelas.
Complete recovery.

Patient E. W. Age 56.
Diagnosis: Acute tonsillitis.
3- 5-26. Entered hospital.
3-11-26. Temperature elevated.
3-12-26. Facial erysipelas present. Complete recovery.

Patient T. T. Age 15.
Diagnosis: Rheumatic heart disease, sepsis.
4- 6-26. Entered hospital.
4-26-26. Facial erysipelas full blown.
5- 6-26. Facial erysipelas cleared up; temperature normal.
5- 9-26. Patient died.

Patient J. T. Age 51.
Diagnosis: Carcinoma of liver.
4-20-26. Entered hospital.
5- 5-26. Temperature elevated.
5- 7-26. Facial erysipelas present.
5-14-26. Patient died.

Ward note.—This is the fourth case of facial erysipelas from this corner of the ward.

EXAMPLE 3.—*Apparent Transmission from Patient to Patient.*

Patient P. Q. Age 61.
Diagnosis: Cirrhosis of liver.
3- 2-25. Entered hospital.
3-17-25. Facial erysipelas started with high temperature.
3-18-25. Patient moved from Ward 31 to Ward F.
3-26-25. Erysipelas cleared up.

Patient M. I. Age 60.
Diagnosis: Carcinoma of pancreas (operated on).
3- 4-25. Entered hospital.
3-19-25. In Ward F; developed facial erysipelas.
3-23-25. Patient died.

EXAMPLE 4.—*All Patients in Different, Though Closely Situated, Wards. Cases Occurred Within Forty-Eight Hours*

Patient P. K. Age 31.
Diagnosis: Acute nephritis.
3-14-18. Entered hospital.
3-19-18. Temperature elevated.
Facial erysipelas. Recovered.

Patient F. D. Age 57.
Diagnosis: Debility.
1-28-18. Entered hospital.
3-20-18. Temperature elevated.
3-21-18. Facial erysipelas. Recovered.

Patient G. W. Age 65.
Diagnosis: Carcinoma of lip (operated on).
2-26-18. Entered hospital.
3-20-18. Temperature elevated.
3-23-18. Facial erysipelas. Recovered.

Patient B. R. Age 42.
Diagnosis: Carcinoma of liver.
3-13-18. Entered hospital.
3-21-18. Temperature elevated.
3-25-18. Facial erysipelas. Recovered.

These cases occurred in wards 7, 30, 29 and 31, four different but closely situated wards, within forty-eight hours. The first of the patients had had a previous attack of facial erysipelas and one had been operated on. The most obvious explanation for this outbreak is on the basis of carrier transmission through an undetermined agency.

The only case of facial erysipelas occurring in a physician is an interesting one:

He was a man, aged 28, who had not been exposed to scarlet fever or facial erysipelas. Jan. 29, 1920, he was found to have scarlet fever. The diagnosis was confirmed by several consultants. Two days later he developed typical catarrhal jaundice, to which was added a bilateral otitis media three days later. The evening on which the ear condition was noted, the patient was found to have a butterfly erythematous eruption of the face typical of facial erysipelas. Despite this series of infections there was a complete recovery. The facial erysipelas developed five days after the appearance of the scarlatinal rash. What the significance of this clinical course is, it is difficult to say.

PATIENTS ADMITTED WITH FACIAL ERYSIPELAS AND THOSE WHOSE FACIAL ERYSIPELAS DEVELOPED AFTER ENTRY

It has already been stated that this series is a selected one in the sense that, as a rule, new patients with erysipelas were not admitted to the hospital as a routine. Nevertheless it is of interest to consider the incidence of the disease at the hospital with particular reference to the number of cases that have occurred in the wards during the course of other diseases.

From chart 4 it is seen that 47 per cent of the 281 cases of facial erysipelas occurred in patients after admission to the hospital. About one half of this number did not undergo any surgical procedure, but the remainder of this group is about equally divided between those who had been the subject of facial surgery and those who had had a surgical procedure in another part of the body.

It would seem, therefore, that there is not a marked difference in the incidence of the disease in the operative

as compared with the nonoperative groups, except for that one type of operation shown on the chart. Whereas the number of facial operations makes up only a relatively small proportion of the total surgical procedures in the hospital, the incidence of erysipelas following facial surgery is relatively high as compared with this sequel in nonfacial surgical operations. This point, considered in the light of Meleney's observations already referred to, suggests that surgical procedures about the face in hemolytic streptococcus carriers may be one of the factors to account for the relatively higher rate of erysipelas among the facial as compared with the nonfacial group.

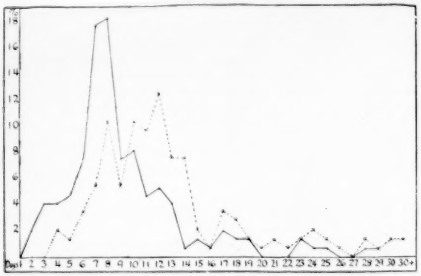

Chart 5.—Duration of facial erysipelas at the Massachusetts General Hospital: solid line, period of pyrexia, 147 cases; broken line, period of signs and symptoms, 144 cases.

DURATION OF THE DISEASE

Young,[8] who has studied the charts of a large series of cases of erysipelas in England, has found that the average duration of fever in the primary attack is 7.88 days. This figure agrees with the majority of reports, but all observers have emphasized the variations in the course of the disease. Some cases end by crisis in four days; in the majority the temperature falls by crisis or lysis on the seventh or eighth day, and in a third group the temperature may continue elevated for two or more weeks (chart 5). The clearing up of the toxic picture, erythema, and scaling of the skin usually lags behind the disappearance of fever, but the exact determination of this feature of the disease is difficult to ascertain from the case histories.

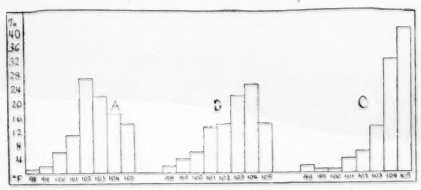

Chart 6.—The temperature in facial erysipelas (percentage incidence): *A*, maximum temperature, first day, 149 cases; *B*, maximum temperature, second day, 167 cases; *C*, maximum temperature during course of disease, 170 cases.

A proper evaluation of the effects of various types of therapy can be reached only by appreciating the variations in the duration and character of the disease in its untreated form. We have seen patients with facial erysipelas about to be treated with antitoxin who, because of horse asthma or for other reasons, were not given serum. In several of these cases the temperature dropped by crisis and there was clinical recovery on the fifth day. In another instance in which serum therapy had apparently effected a striking improvement on the fifth day of the disease, we learned that in a previous untreated attack cure had apparently taken place on the sixth day. These facts in no way minimize the beneficial effects of streptococcus erysipelatis antiserums which have been reported on by Birkhaug, Symmers and Lewis, and Symmers, but our observations indicate the necessity of judging therapeutic values in this disease by a due consideration of such factors as age, condition of the patient at the onset of the erysipelas, effect of operative procedures, and definition of the term "duration of the disease."

TEMPERATURE IN FACIAL ERYSIPELAS

There is no constant type of temperature course in facial erysipelas. When cases uncomplicated by other diseases are considered from this point of view, it appears that only a very few show an afebrile course, a type of reaction which is usually confined to the aged. Most patients have very high fever, which may recede, either by lysis or by crisis, within from four to ten days.

Chart 6 emphasizes the fact that the temperature on the first two days of the disease is high in the great majority of the cases and that in about three fourths of all the cases there is a temperature of 104 or 105 some time during the course of the disease.

This finding is of significance when considered in relation to the early diagnosis of the malady, which will now be taken up.

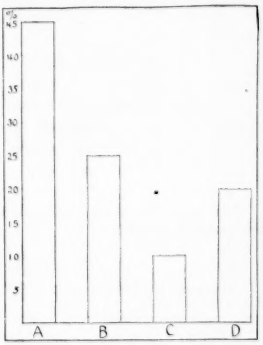

Chart 7.—Cases of facial erysipelas arising in the Massachusetts General Hospital: relation between day of diagnosis and day of rise in temperature: *A*, diagnosed same day as rise in temperature, fifty-five cases; *B*, diagnosed one day after rise in temperature, thirty-one cases; *C*, diagnosed two days after rise in temperature, twelve cases; *D*, diagnosed more than two days after rise in temperature, twenty-four cases.

RELATION OF THE DAY OF DIAGNOSIS TO THAT OF THE ONSET OF THE FEVER

The diagnosis of facial erysipelas in the presence of the rash is comparatively easy, but frequently the erythematous patch does not appear until a day or more after the onset of fever, making the early diagnosis of the disease quite difficult. Prompt recognition of a case of erysipelas is important in preventing cross-infection. An attempt has been made here to determine the relative rapidity with which the house cases of facial erysipelas in this series have been diagnosed.

For the purposes of this portion of the study, the disease is assumed to have begun when the temperature has reached a level of 102 or higher. Very few patients are afebrile or subfebrile at the onset of the disease. The day of diagnosis is usually determined with ease, since this date is marked both by a series of orders, such as "individual precautions" and transfer of the patient to the isolation ward, and by the specific diagnosis incorporated in the ward notes.

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Chart 7 shows the relation between the day of the significant rise of temperature and the day of diagnosis among the cases of facial erysipelas arising in the hospital. From the height of the first column it is evident that 45 per cent of the cases were recognized on the same day that fever appeared. The remaining columns show that 25 per cent of the cases were diagnosed one day after the rise in temperature, and 10 per cent two days after the onset of fever. Twenty per cent of this series of patients were not recognized as having erysipelas until three or more days after the rise in temperature. In other words, it may be said that more than half of all the cases of erysipelas occurring in the hospital are not diagnosed until at least one day after the onset of fever.

DEATH RATE IN FACIAL ERYSIPELAS

The death rate for facial erysipelas in this series is 19.6 per cent. In view of the small number of infants of the other known pathologic condition when present. Group 1 contains those patients who would appear destined for certain death irrespective of the complicating erysipelas. Group 2 is made up of cases closely related to the former group, but here a bad prognosis is not so certain. The third group consists of a number of patients whose death seems directly due to the facial erysipelas. Their other known pathologic condition was not extensive. The death rate in this last group is only a fifth of the total mortality. It may therefore be stated that the death rate for erysipelas is about 5 per cent when those patients with other serious illnesses are excluded from the analysis.

MONTHLY INCIDENCE OF FATAL CASES

The monthly incidence of the disease among those dying of facial erysipelas does not differ markedly from the incidence for the total group. The first half of the year witnesses the highest mortality from facial

Analysis of Fifty-Five Fatal Cases

Group 1

Disease	Number of Cases
Hepatic cirrhosis	3
Rheumatic heart disease (severe)	3
Subacute bacterial endocarditis	2
Coronary thrombosis	1
Arteriosclerotic heart disease	3
Chronic nephritis, hypertension	3
Miliary tuberculosis	2
Ulcerative colitis with perforation and peritonitis	1
Malignant lymphoma	1
Sarcoma of undescended testicle; metastasis to abdomen	1
Carcinoma of stomach, liver metastases	1
Carcinoma of Pancreas	1
Carcinoma of esophagus	1
Carcinoma of liver	1
Aplastic anemia	1
Total	25

Group 1 = 45% of total fatal cases.

Group 2

Disease	Number of Cases
Pemphigus; diphtheria	1
Rickets; bronchopneumonia	1
Bronchopneumonia	1
Lung abscess; bronchopneumonia	1
Pylorectomy; bronchopneumonia	1
Neck dissection for recurrent carcinoma	1
Neck dissection for carcinoma; auricular fibrillation	1
Neck dissection for carcinoma	3
Epithelioma of nose (not operated on)	1
Postoperative excision of neck tumor; death due to rupture of internal carotid artery during dressing	1
Postoperative excision of sarcoma of tonsil; death due to hemorrhage from internal jugular vein	1
Cellulitis of neck; bronchopneumonia	1
Influenza and bronchopneumonia	1
Postpartum pyelophlebitis; sepsis	1
Perineal prostatectomy; uremia (erysipelas clearing up in one case)	2
Diabetes; cardiac insufficiency; taxis abdominal hernia	1
Total	19

Group 2 = 35% of total fatal cases.

Group 3

Disease	Number of Cases
Erysipelas, face, migrating infection	1*
Fulminating erysipelas, purulent foci of face	1*
Trauma, lacerated hip, fractured leg (?), ulcers of leg	2
Acute alcoholic bout; few lacerations of scalp	2
Axillary abscess, incision and drainage	1
Retropharyngeal abscess, incision and drainage	1
Partial thyroidectomy	1
Repair, left inguinal hernia	1
Ludwig's angina; edema of larynx	1
Total	11

Group 3 = 20% of total fatal cases.

Group 1. Prognosis as to other known pathologic condition, extremely grave.
Group 2. Prognosis as to other known pathologic condition, grave.
Group 3. Prognosis as to other known pathologic condition, good.

* The only two patients who died of erysipelas uncomplicated by any other known pathologic condition.

included in the study, this figure appears higher than that usually quoted for a similar group. Erdman found a mortality of 5.38 per cent in 700 cases seen at Bellevue Hospital in seven periods of service between February, 1909, and April, 1913. These periods were presumably scattered throughout the year. Symmers, in a more recent study at Bellevue Hospital, found a mortality of 6.5 per cent in untreated cases of facial erysipelas during forty-nine days in May and June, 1926. From a study of the records of facial erysipelas at the Rochester Municipal Hospital between 1913 and 1924, McCann found the mortality in 221 cases to be 4.5 per cent.

The much higher death rate found in this series depends on the type of selection of cases referred to earlier in the paper. Many of the cases of erysipelas occurring in the Massachusetts General Hospital complicated diseases characterized by an inevitable death. The accompanying table attempts to clarify this point further.

In the table the cases of facial erysipelas have been divided into three groups on the basis of the prognosis

erysipelas, and it is in this period also that Meleney found the high rates for hemolytic streptococcus throat carriers and hemolytic streptococcus wound infections.

EFFECT OF AGE ON MORTALITY

Chart 8 confirms the well established opinion that facial erysipelas is most serious when it attacks the very young and the aged. The chart is so constructed as to show the percentage in each age group dying of the disease.

SEX INCIDENCE OF THE FATAL CASES

Earlier in the paper it was stated that in this series 57 per cent of the patients were males and 43 per cent were females. In the group that died, however, the males were far in the majority. Eighty-two per cent of those dying were males, while the females made up only 18 per cent. This difference may depend in part on the large number of operations for carcinoma of the face among the men as well as on their greater consumption of alcohol, which thus increases their liability toward facial trauma.

DIVISION OF FATAL CASES INTO TWO GROUPS

Chart 9 shows that 83 per cent of the fatal cases occur in those who contracted the disease after admission to the hospital. Since only about one half of the total number of cases of facial erysipelas developed in the hospital, it therefore follows that the mortality rate is much higher among those whose underlying illness was complicated by facial erysipelas than among those who came to the hospital suffering only with erysipelas.

Facial erysipelas as a terminal infection therefore alines itself with bronchopneumonia in being the effective agent in causing death in many chronic and incurable diseases.

SUMMARY AND CONCLUSIONS

1. In this series, cases of facial erysipelas were most frequent from December to May. This period roughly coincides with the high frequency months for hemolytic streptococcus throat carriers and wound infections reported by Meleney at the Presbyterian Hospital, New York.

2. In the period between 1870 and 1927, 13.5 per cent of the total group of cases of facial erysipelas occurred in hospital personnel. In this number only one was a physician and the source of his infection was difficult to trace.

3. Forty-eight per cent of the 281 cases of facial erysipelas occurred in patients after admission to the hospital. About one half of this number were medical patients, while the remainder had recently undergone some surgical procedure. Of the latter group, slightly more than half had had their operations limited to the face.

4. In the past ten years there were a number of instances of cross-infection occurring in the hospital, the nature of which is considered in the body of the paper.

5. The temperature in facial erysipelas is usually high during the first two days of the disease, and about three fourths of all the patients have a temperature of 104 or 105 some time during the course of the disease.

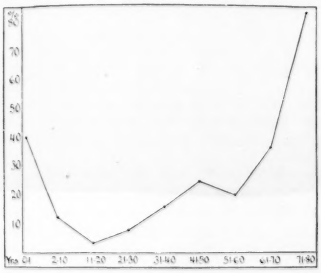

Chart 8.—Mortality in facial erysipelas (fifty-five deaths in a total of 281 cases); the curve indicates the mortality percentage in each age group.

6. The natural course of facial erysipelas untreated with specific antiserums is sometimes abruptly terminated by crisis in from four to seven days.

7. In the group of patients acquiring facial erysipelas in the hospital, the condition was diagnosed in only 45 per cent on the same day that a significant fever appeared. Twenty-five per cent of the cases were recognized one day after the rise in temperature; 10 per cent two days after the onset of fever, and 20 per cent not until three or more days after the fever had developed.

8. The death rate for facial erysipelas in this series is 19.6 per cent. This high rate, in spite of the relatively small number of infants in the group, is explained as being due to the hospital rules in regard to the selection of cases, since half of the patients were suffering from other diseases before they contracted erysipelas.

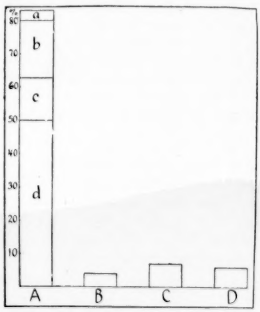

Chart 9.—Division of fatal cases into patients admitted to the hospital with facial erysipelas and those in whom the disease developed after entry: *A*, cases of erysipelas developing after entry to Massachusetts General Hospital: (*a*) after trauma, 3 per cent; (*b*) following nonfacial surgery, 17 per cent; (*c*) following facial surgery, 13 per cent; (*d*) cases in which operation was not performed, 50 per cent; *B*, patients entering with erysipelas following operation in outpatient department or outside, 4 per cent; *C*, patients entering with erysipelas following trauma, 7 per cent; *D*, patients entering with uncomplicated erysipelas, 6 per cent.

The death rate for facial erysipelas in our series is about 5 per cent when those patients with other serious illness are excluded from the analysis. This point is considered in detail in the body of the paper.

9. Facial erysipelas extracts its highest mortality toll from the very young and the aged. The necessity of considering the age incidence of a series in evaluating therapeutic results is at once evident.

10. Eighty-three per cent of the patients in this series who died of facial erysipelas contracted the disease after admission to the hospital. Since only about one half of the total number of cases of facial erysipelas developed in the hospital, it follows that the mortality rate is much higher among those individuals whose underlying illness was complicated by facial erysipelas than among those who came to the hospital suffering only with erysipelas.

Facial erysipelas must therefore be considered as occupying a similar rôle to bronchopneumonia in hastening the death of sufferers from chronic, progressive, often incurable disease.

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Gastric and Duodenal Ulcer.—In my opinion no real advance in our knowledge of the etiology, clinical manifestations or treatment of these two diseases, gastric ulcer and duodenal ulcer, will be made if we speak of them as one. The time may come when, more fully equipped with knowledge, we may speak of them in synthesis; but for the moment the closest analysis of every particular attribute surely continues to be necessary. These two forms of ulcer occur, as a rule, as Hurst has emphasized, in opposed types of individual. There are, so far as we can judge, some similar factors and some dissimilar factors at work in their production; the chemical condition of the stomach contents in the two conditions is almost always very different; their symptoms enable a clinical and anatomical discrimination to be very frequently, though not invariably, made; their behavior in respect of hemorrhage and of perforation is not the same; the pylorus forms between them a barrier very rarely overstepped; and, finally, a gastric ulcer becomes malignant in a formidable proportion of cases, whereas malignancy in a duodenal ulcer is an event so rare that few pathologists have seen it. The use of such terms as "gastroduodenal ulceration" and "juxtapyloric ulcer" is, therefore, slipshod and misleading, an evidence of intellectual untidiness, and should be dropped.—Moynihan, Berkeley: Some Problems in Gastric Surgery, *Brit. M. J.*, Dec. 8, 1928.

MENINGOCOCCI ALIVE IN SPINAL FLUID TWENTY-SIX HOURS AFTER EMBALMMENT *

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This report deals with a spinal puncture made post mortem on a child who had died during the fourth day of illness from meningococcus meningitis. The tap was made to clear up the lingering doubt of a diagnosis of poliomyelitis. The chief interest lies in the fact that although the child had been dead twenty-eight hours and had been embalmed two hours after death, live meningococci were recovered in the spinal fluid which were later grown in culture successfully in the laboratory.

REPORT OF CASE

History—M. T., a girl, aged 8 years, weighing 59 pounds (27 Kg.) and living on an isolated farm in Albany County, N. Y., in a family with five other children was quite well on Monday, April 8, 1929, but on the following morning she seemed drowsy and chilly. After a rather light breakfast she walked half a mile to the one-room rural school. Two hours later she walked home, vomiting en route. She went to bed, without eating anything more that day; she slept most of the time and vomited again in the evening. On Wednesday the chief symptoms were fever, headache, backache, delirium, thirst and vomiting. The attending physician found the patient apathetic, and looking as though she had been sick for two weeks. On Thursday the patient developed stiffness and retraction of the neck, and a positive Kernig sign was present. Delirium continued intermittently until death Friday at noon.

At 2 p. m. Friday the body was embalmed by the so-called cavity method. First it was sprayed generously with a preparation advertised as "a product that liberates a powerful, antiseptic and disinfecting gas." Following this a trocar was introduced into the abdominal cavity and through it there passed 16 fluidounces of an undiluted embalming fluid. A similar quantity of the same material was divided between the two lung areas, being introduced also by the trocar which had been made to puncture the diaphragm. On the label of the bottle of embalming fluid which contained 16 fluidounces there appears the following statement: "The contents of this bottle mixed with water so as to make one-half gallon of embalming fluid will make a fluid containing not less than 14 per cent of a 40 per cent solution of formaldehyde."

The lumbar puncture was made twenty-six hours after the body had been embalmed and during this time the body had lain in a room in which the temperature was about 45 F. The spinal fluid was very distinctly cloudy, and appeared in every way characteristic of a meningococcus infection. An additional two hours elapsed before the study of the fluid was commenced at the state laboratory in Albany. It had been transported in a sterile test tube in the breast pocket on an ordinary suit, and in a closed automobile.

Laboratory Observations.—About 5 cc. of spinal fluid was received late in the afternoon of April 13 and the examination was started by a member of the laboratory staff about 6:30 p. m. The specimen was cloudy, with a faint yellowish tinge. There were 12,400 cells per cubic millimeter with polymorphonuclear leukocytes predominating as shown by stained films. In the chemical examination, a marked increase in globulin was indicated by Noguchi's butyric acid test and Fehling's solution was not reduced. A very few gram-negative diplococci were found both intracellularly and extracellularly in gram-stained preparations.

Blood plates were inoculated and incubated aerobically, in partial carbon dioxide tension (approximately 10 per cent) and anaerobically at 37.5 C. A portion of the sediment, incubated at 37.5 C. over night, was also used to inoculate blood plates, which were incubated aerobically at 37.5 C. No growth of bacteria was obtained on any of the blood plates incubated aerobically or anaerobically. A few colonies of meningococci grew on those incubated in partial carbon dioxide tension.

Serologic tests with polyvalent antimeningococcus serum showed agglutination in dilutions up to 1:2,000. The organisms did not appear to belong to one of the definite groups of meningococci, since an approximately equal amount of agglutination was obtained with monovalent serums of groups I, II and III.

COMMENT

The postmortem spinal puncture has been shown in this case to be of value for purposes of determining the diagnosis of meningococcus meningitis, even twenty-six hours after embalmment of the body and as long as thirty hours from death to the time of laboratory study of the spinal fluid. It is not likely that the embalming materials or their gases reached the spinal canal.

Gay and Southard [1] have shown that bacteriolytic substances are absent in the cerebrospinal fluid post mortem. Gildersleeve [2] in a bacteriologic study of dissecting room cadavers was astonished "to discover living infective organisms (*B. tubercularis* and *Staphylococcus pyogenes-aureus*) in properly embalmed bodies for so long a time as six months after preparation and deposition in the vaults."

There were no epidemiologic observations of significance to indicate the etiology of this sporadic case. There were no known cases of the disease in the vicinity of the patient's home or school. The other children in the household were 2, 6, 11, 12 and 15 years of age and were all in rugged health. The 2 year old brother had shown a slight limp in one foot just previous to his sister's illness, and this fact had suggested the possibility of poliomyelitis. The father visited each day the nearby villages of Alcove and Ravena (on the West Shore Railroad), but there were no known cases of meningococcus meningitis in these communities.

SUMMARY

1. Live meningococci were isolated from the spinal fluid taken post mortem from an 8 year old child.

2. The child had died on the fourth day of illness. The body had been embalmed (by the cavity method) for twenty-six hours when the spinal puncture was made.

3. Thirty hours had elapsed from the time of death until the spinal fluid was examined in the laboratory.

4. The meningococci did not belong to any particular type, but agglutinated polyvalent antimeningococcus immune serum.

5. Postmortem spinal puncture has been shown to be of value in differential diagnosis, even after embalmment has been completed.

* From the Division of Administration and the Division of Laboratories and Research, New York State Health departments.

1. Gay, F. P., and Southard, E. E.: The Significance of Bacteria Cultivated from the Human Cadaver, Centralbl. f. Bakteriol., part 1, **55**: 117, 1910.

2. Gildersleeve, Nathaniel: A Bacterial Study of Dissecting Room Cadavers, Univ. Pennsylvania M. Bull. **14**: 328 (Nov.) 1901.

THE DIAGNOSIS OF SELF-INFLICTED LESIONS OF THE SKIN

A CONTRIBUTION TO PHYSICAL DIAGNOSIS IN DERMATOLOGY *

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Two years ago there came under observation in the department of dermatology a patient, the text for this homily on self-inflicted cutaneous lesions, who had been under observation from time to time by able medical men for a period of years without adequate appreciation of the real nature of her trouble. She was presented before the third year medical class in dermatology, and an unaided diagnosis of self-inflicted skin injuries was made by the students as a result of certain fundamental criteria for the recognition of this picture which had been previously impressed on them in their course. That inexperienced medical students could be taught by a comparatively simple written rubric to recognize what their far more learned predecessors had missed, and that the literature over a period of ten years has contained comparatively few references to this group of cutaneous lesions, seem to justify a summary of the facts and of the approach to a diagnosis.

REPORT OF CASE

E. W. E., a married woman, aged 40, was first seen in 1909. From the imperfect records of the day it appears that she had then entered the hospital with pains in the chest, abdomen and legs, and over both ovaries, both breasts and along the spine. Undescribed cutaneous lesions were present with painful black spots on the dorsums of the feet. Physical examination did not reveal anything of note. The medical consultant considered the case one of Raynaud's disease; the dermatologic consultant made a diagnosis of hysterical gangrene of the skin.

From subsequent entries on six admissions, the course of events is gradually more clearly delineated, with four distinct groups of facts outstanding—changes in the skin, sleeping spells, attacks of rigidity, and ocular and neurologic signs of major hysteria. At certain entries, the picture was disturbed by events which in retrospect seem adventitious, such as fever, attacks of colitis, and abdominal pain, on one occasion so marked as to lead to a tentative diagnosis of typhoid. Hospital residence usually induced improvement in the cutaneous lesions. It was reported in the notes that "white spots" had appeared from time to time while the patient was under observation, and localized pallor and glossiness or attrition of the skin had been observed but always after periods of absence from the hospital. Suppurative and gangrenous lesions, at first on the fingers and later more scattered over the body, were also observed, but they, too, developed during the unsupervised periods between admissions. A keloid was mentioned which became crusted and broke down during a period of non observation.

One other fact deserves special note. The initial experience which marked the beginning of this long train of cutaneous injuries was an industrial accident—the running of a sewing machine needle through the left index finger. This was followed, according to the patient's unchecked statement, for she apparently was not under medical supervision, by blanching, redness and black discoloration, which all developed within two hours. The finger was amputated; and thus, through what was probably a combined error in interpretation of the medical condition as traumatic and later as Raynaud's gangrene, and the suggestive effect of an operation on an hysterical subject, a series of injuries to fingers and toes, and later to other parts of the body, with amputation in various hospitals, was set in motion. For nearly twenty years she had never been free from cutaneous lesions for more than six months at a time.

At the time the patient was shown to the Class in 1927, there were numerous irregular, elevated, large-coin to palm-sized cicatrices, many of which presented hypertrophic and keloidal features, scattered over the entire trunk and extremities, with the striking exception of the back. On the lateral aspect of the left arm were two sharply marginated, shallow ulcers, the size of a silver dollar (38 mm.), with granulating and crusted bases and angular or serrated borders. The terrain was free from inflammatory areola, apple jelly nodules, pyogenic satellites, pigment or other changes. The left index finger was missing. The middle finger of the left hand was involved in a severe dermatitis with superficial sloughing of the tissues about the proximal interphalangeal joint. The toes of the right foot were missing, and the dorsums of both feet showed extensive superficial scarring at the sites of previous lesions. The tips of the surviving fingers and toes were in no case involved. Dr. Edward A. Strecker, who saw the patient at our request, found an emotional complex which he interpreted as major hysteria and suggested that the skin lesions were probably self-induced during attacks of hysterical stupor.

CLASSIFICATION OF THE SELF-INFLICTED INJURIES

Three distinct groups of self-inflicted injuries are clearly recognizable:

1. *Neurotic excoriations.* Unintentional and unrecognized injuries usually inflicted by picking and scratching of an eruption already present, or supposed to be present.

2. *Hysterical dermatoses.* Injuries inflicted in neurotic or hysterical states, with or without a conscious desire to elicit sympathy or from a morbid craving for attention and notoriety.

3. *Malingering.* Injuries inflicted with the deliberate intention of escaping work, gaining unearned compensation, or invoking charity.

The second and third categories are sometimes combined under the designations "dermatitis factitia," "dermatitis artefacta" and "feigned eruptions."

To this group we believe it is possible to add an additional type, perhaps as a subhead under group 1, which might be designated as tic or habit localizations of certain dermatoses. For example, it is possible to observe in certain acnes, among nervous persons particularly, a peculiar distribution which is a function of the autoinoculative effect of a certain gesture or pose frequently assumed by the patient. Of this one sees excellent examples in the right or left sided acne of students whose posture at the desk is one of resting the chin in the hand with the palm and fingers covering one side of the face. Localized comedo formation of the chin, of the alae of the nose and of the skin below the ramus of the jaw, which is not ordinarily affected in acne, may be the product of special attitudes, strokings or habitual gestures. One of us (J. H. S.) has seen a marked papular acne below the ramus of the left jaw, resulting from the habit of supporting the chin on the backs of the proximal phalanges of the closed fist. Picking or "scratch" eruptions, localized dermatitis of the finger tips and sides, hair denudations, and the familiar lichen Vidal may have a definite tic or habit spasm localization.

DIAGNOSTIC EARMARKS OF THE SELF-INFLICTED CUTANEOUS LESION

The diagnostic earmarks of self-inflicted lesions may be described under six heads:

1. Morphology and configuration of the eruption.
2. Distribution of the eruption.

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* Submitted by Dr. Garner in partial fulfilment of the requirement for the degree of Master of Science in Dermatology-Syphilology in the University of Pennsylvania Graduate School of Medicine.

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3. Facies and make-up of the patient.
4. Chronology.
5. Neurologic signs and symptoms.
6. Motivation.

1. *Morphology and Configuration of the Eruption.*—The self-inflicted lesion has, to the eye of the expert, a bizarre appearance, even at first glance. This quality can be analyzed into a bizarreness in configuration of the group of lesions and, by critical inspection, individual elements can usually be found which likewise share this quality, even though the majority of the lesions do not present anything distinctive. The element of the bizarre may be defined as an unexpected or unorthodox departure from the gallery of stored visual impressions accumulated by experience. Before the impress made by such a picture the observer's mind rears and draws back for a moment in a shock impression comparable to that of the horse of the nineties confronted by the moving horseless carriage. This primary mental reaction, in a sense of course a by-product of experience, is of the greatest importance in diagnosis, but it must never be accepted without subsequent critical analysis into its component parts. It is this first impression that the untrained or inexperienced observer fails to get, and yet the knowledge that makes it possible is not difficult of acquirement. After receiving the first shock impression, the alert observer proceeds at once to divide the picture into two portions. By critical inspection of the individual elements in the combination, he may detect among a number of commonplace lesions perhaps only two or three which will bear the unmistakable earmarks of self-infliction. But these two or three lesions may be sufficient to establish the identity of the process under observation.

The self-inflicted lesion is, in the first place, usually destructive: an ulcer or an erosion, a denudation or a gangrene. If an ulcer, the freedom of the terrrain from abnormalities is important; that is, the ulcer appears on a skin normal almost to the very edge of the lost or injured tissue. There may be few evidences of the expected advance over a terrain prepared by an underlying pathologic process, as in the impetigos, tuberculosis, syphilis or local vascular disease. Evidence of the destructive character of the process may be found in scars, even though most of the lesion for the moment is nondestructive. Gangrene is so unusual an intrinsic lesion of the skin as such that, in and of itself, wherever it occurs, it raises the question of self-infliction or external trauma rather than internal origin. It is imperative to distinguish at all times between gangrene of the skin as such, which follows external injuries, and gangrene of a part, or simultaneous gangrene of the skin and deep subcutaneous tissues, which is more likely to have an intrinsic origin. Crust must be distinguished in all such lesions from slough or eschar by the adherence and leathery character of the latter. It is a part of the skin itself, not an accumulation on its surface.

A large proportion of self-inflicted skin lesions are chemical burns. In Ormsby's [1] series of thirty-four patients, 40 per cent were due to applications of phenol alone. The recognition of the brownish pink or purplish tinge of the phenol burn is therefore a considerable aid. White followed by yellow, blue-yellow or green, then gray to black, is a common color sequence after other escharotics. Varney [2] suggests that litmus paper applied to the serum of a suspected lesion may show a strongly acid reaction. The methods utilized for self-infliction include simple friction, as with the finger moistened with saliva, and the application of acids, alkalis, hot metals, sandpaper, mustard, croton oil, cantharides or tobacco. Needles, scissors and other mechanical means of injury are resorted to less frequently. Collie [3] mentions the possibility of a "hairbrush purpura" from stroking the skin vigorously with this toilet article.

The scar often offers most valuable clues. Keloidal changes are highly significant. The scar of the superficial burn has the appearance of atrophy rather than a fibrous replacement. The periphery of such a scar is often of cigaret-paper thinness, paler than normal, and the follicle mouths are patulous and widely spaced. The central portion of a burn scar, on the other hand, tends to heap up, with radiating fibrous pseudopods extending toward the atrophic periphery, in which particular it differs from the more uniformly thin scarring of syphilids.

The scratch papule and the punctate or linear denudation are the elementary lesions of neurotic excoriation. The papule must be differentiated by its excoriated flat top and blood-stained brownish adherent crust from pustules and scaling lesions. The linear scar, composed either of a single streak or of a row of pocklike scars representing individual scratch papules, is of great assistance in the recognition of a scratch-inflicted lesion. Losses of hair, wherever they occur, must be critically inspected for evidence of self-infliction. The presence of robust hair stumps, especially if a number are of equal length, or of the stout hair at the follicle mouth (seen with a lens), raises a presumption of self-inflicted denudation.

The bizarre and at times fantastic shape both of the individual lesion and of the arrangement of a group of lesions is, then, a suspicion-arouser of the first order. Self-inflicted lesions tend to have rectangular or angular rather than rounded outlines. A square, triangular or rectangular patch, erosion, ulcer or scar raises a presumption of self-infliction that should be dismissed only after careful analysis. Crudely made lesions produced by liquid cauterants may have "tails" or linear extensions where the fluid has dribbled downward in the direction of gravity, depending on the posture of the patient at the time the lesion was inflicted. Lens examination of an irregular or serrated border may disclose multiple puncture openings or ragged edges made by any sharp object, from phonograph needles to teeth. The latter were shown to be the instrumentality employed in McKeown's [4] case of purpuric lesions on the forearms of a girl, aged 13, who, after fixing the skin with the teeth, applied strong suction with the lips. Bruising and suggillation is an important sign of self-infliction and should not be too readily dismissed as purpura. It may be produced by blunt instruments, pinching, biting or, as in one patient under our observation, self-inflicted kicks with the heel over the tibia, simulating the bruise changes of an erythema nodosum. The configuration or arrangement of a group of factitious lesions, as well as the outline of individual lesions, has too much pattern, is too regular, to conform to natural standards. A gridiron, spiral or crisscross configuration should arouse suspicion. A line of lesions along the skin at variance with nerve or lymphatic distribution, or lying in such a distribution but of a character not likely to be associated with nerves, lymphatics or vessels, is sometimes a clue. On such small

1. Ormsby, O. S.: Factitious Dermatoses, J. A. M. A. **65**: 1622 (Nov. 6) 1915.
2. Varney, H. R.: J. Michigan M. Soc. **17**: 121 (April) 1918.
3. Collie, J.: Lancet **2**: 1008 (Dec. 16) 1916.
4. McKeown, K. M.: M. Press & Circ. **108**: 524, 1919.

items as the occurrence of several lesions of similar type at the same slant with the perpendicular does the primary arousing of suspicion which leads to diagnosis often depend. MacKee and Andrews [5] record a unique case in which, following a roentgenographic study of the antrum, a factitious eruption appeared on the face which was made to stimulate a radiodermatitis for purposes of lawsuit.

2. *Distribution of the Lesions.*—The obvious fact of distribution which might suggest a self-inflicted origin is limitation to accessible regions of the body. This is, however, not an infallible guide, for the ingenious patient may at times employ artificial aid to reach the middle of the back between the scapulae, which is the only part of the skin really inaccessible to the average hand. However, as the majority of untrained persons require the guidance of eyesight as well as touch, and a certain freedom of movement in manipulating trauma-producing devices, the accessibility factor in the distribution of factitious lesions is often a well marked and dependable guide (fig. 1). The tendency to exempt the right hand and arm in right-handed, or the reverse in left-handed, persons has been noted. In the more naive types of self-infliction, the group of lesions is often conspicuously placed on the chest or abdomen, the face or the back of the hand, with an almost exhibitionistic effect. The normality factor in distribution can be estimated only by one of experience; that is, a type of lesion may be appearing in a situation which is abnormal or unusual for that type of lesion, such as a line of blisters across the face, a sharply punched out chip from the ala of an otherwise normal nose, a circular gangrenous patch in the palm or palmar surface of a finger instead of the tip, a nondescript grouping of punched out ulcers on the dorsum of the foot behind the toes, which from their appearance should rather have an arciform configuration extending over the instep. There may be a suspicious regularity in distribution about a prominent central point, as, for example, in cartwheel formation about the umbilicus or about the nipple. It is exceedingly common for self-infliction to begin at or near the site of a previous injury either in an attempt to prolong the original disability or as the result of suggestion in the neurotic. In neurotic excoriations, an unorthodox type of lesion like the scratch papule follows the orthodox distribution of a dermatosis such as acne.

3. *Facies and Make-up.*—From the appraisal of the patient's make-up, appearance, manner and actions, a great deal of valuable evidence may be collected, albeit sometimes of a somewhat intangible and intuitive sort. The tension of the nervous type of patient who is the victim of a neurotic excoriation is sometimes felt instinctively by a perceptive examiner rather than seen. The nervous restlessness, the slight tremors of the facial muscles, the easily suffused or overbright eye, or, in contradistinction, the poker face of the outwardly calm though inwardly tense persons, gradually become recognizable with experience. If the patient with a neurotic excoriation is engaged in conversation and watched, he will often in a moment of distraction repeat the gesture or picking movement by which he snares off bits of his skin. Collateral evidence of nervous instability in the form of bitten fingernails, knuckles or hangnails should be looked for. Sometimes a fussy and domineering parent accompanying the patient, obviously the source of repressive influences, gives the clue to the character of a self-inflicted lesion in a young person. In the same way, parental oversolicitude and infantile malicious precocity or wilfulness may underlie the situation, as in a boy, aged 5, with an eruption in the diaper distribution, who had developed a mischievous habit of inviting his mother's handling of his genitalia and had made himself the center of what was, to him, a delightful family uproar, by the trick of urinating dog-fashion in short, sharp spurts whenever he was taken on his mother's lap. The roguish glance of the small reprobate as physician, nurse and parent solicitously eyed his performance betrayed the situation and pointed to a remedy obviously more needed than ointments and potassium citrate.

In the more deeply rooted nervous abnormalities, the excessive interest of the patient in his lesion, his tendency to "nurse" it, his readiness to exhibit it and to be displayed, or a certain glibness in the story, may first arouse suspicion. Often, indeed, there is a something about the facies, once slangily known as "the bedroom eye" or "the kiss-me-quick look"—a certain aura of sexual approachability without actual immodesty—that attracts attention. Attitudinizing, self-dramatization, eroticism and similar emotional states may appear in a glance or a pose. In order of importance follow the more obvious clues from the facies—a half-guilty, furtive or hangdog look, and then, as one passes into the cruder types of outright malingering, a certain uncommunicativeness, a sullen reserve or the signs of a low level of intelligence. None of these criteria have absolute value, for we agree with Lancashire that a clever malingerer may not in manner or in action betray to the slightest degree the course he is pursuing.

4. *Study of Chronology.*—The sequence of events is often of material assistance in diagnosis. Croplike recurrences following periods of stress or reprimands, somnambulistic episodes and disappearance from observation are suggestive. When the self-infliction is made to induce sympathy, the association of outbreaks with expected or actual visits from a certain person may be established. Nocturnal development of lesions with their first recognition or display in the morning is highly suggestive. It was the first clue in a most difficult case already mentioned in which an hysterical young girl with lesions simulating erythema nodosum was finally detected in the act of producing them in her sleep by kicking her shins. Suspicion was aroused in part by the presence of new crops in the mornings. Coincidence of reappearance with resumption of employment may occur. Revival of self-infliction under the influence of suggestion as, for example, the reappearance after a thunderstorm of a lesion which was supposed to have been produced in the first place by an electrical spark-over from a telephone switch-board, occurred in one of our patients. Injury to a fellow-employee, or personal injury to the hysterical person himself, may produce a chain of feigned reproductions, more or less copies of the original condition, as in the case here described, or revive a tendency to self-infliction which had been quiescent for months or years.

5. *Study of Neurologic Signs and Symptoms.*—The feigned eruption in an hysterical subject can be distinguished by its background from outright malingering on the one hand, and the neurotic excoriations on the other. The diagnosis of hysteria should not, however, be made without the presence of definite stigmas. Conjunctival anesthesia, absence of pharyngeal reflex, ovarian and submammary tenderness, areas of anesthesia about the nipples, hands and wrists (glove

5. MacKee, G. M., and Andrews, G. C.: Am. J. Roentgenol. **10**: 617 (Aug.) 1923.

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anesthesia) and hemianesthesia are comparatively easily tested for. Norman Walker [6] has noted insensibility of the palate in every case of dermatitis factitia under his care. In doubtful cases the examination of form and color fields and tests for scotomas and tubular vision by an ophthalmologist may clinch the diagnosis. Contractures have been reported, as in Ayres'[7] case. In Netherton's[8] series of cases of dermatitis factitia, six occurred in definitely hysterical and neurotic women. In three cases the lesions began as bullae in the scars of uneventful appendectomies.

6. *Study of Motive.*—The psychic background of the feigned eruption is much more difficult of investigation than the neurologic. In the simpler types of personality, questioning may elicit elements of stress, sometimes moral and religious, occasionally intellectual and, as Engman has emphasized, often sexual in character, but a good deal of care must be exercised in dealing with the sexual type especially, for inexperienced attempts at "cathartic psychoanalysis" may only stimulate the trouble or involve the meddler in the coils of an unwelcome love affair. Jealousy, self-pity and a morbid craving for sympathy or attention form the larger part of the unconscious motivations in the more severe types of cases.

It is an excellent aid in detecting genuine malingering, while viewing any eruption which has destructive characteristics, to ask oneself habitually the question: "Has this patient anything to gain?" side by side with the two other questions to which a high index of suspicion most often yields the correct answer, "Is this syphilis?" and "Is this drugs?" The four chief motive forces are economic stress, in which the person is being worsted in the struggle against competition; laziness; industrial compensation, and damages, and each should be painstakingly investigated. The typical malingerer would rather subsist on a pittance gained without work than on a liberal wage at the sweat of his brow.

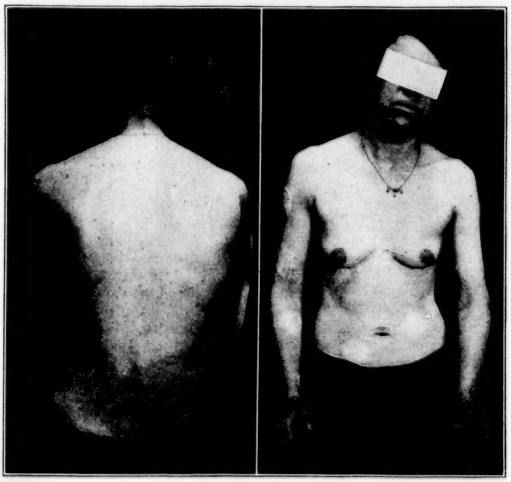

Fig. 1.—Distribution and character of lesions in the patient described. Attention is called to the entire absence of lesions on the back, the obvious accessibility, the almost exhibitionistic array of the lesions on the trunk and arms, the amputation of the index finger and the almost uniformly keloidal character of the lesions, indicating their probable production by acid or other chemical cauterants.

THE DETECTION OF SELF-INFLICTION

The crucial test of a diagnosis of self-infliction is of course the detection of the patient in the act or the securing of a confession. While this is easy in some cases it is exceedingly difficult in others, and the physician may be obliged to remain content with an accumulation of indirect evidence, such as healing under observational control, and the time and circumstantial sequences in relapse. The fundamental principles in tracing down a case demand that the foregoing analysis must have been painstakingly carried out. The neurotic excoriater, when told the facts of his condition, yields a prompt acquiescence and, as pointed out by MacKee,[9] and by Pusey and Senear,[10] a satisfactory cooperation in the control of his unconscious activities. The simpler type of psychoneurotic victim of a feigned eruption and the dull or stupid types of malingerer can often be surprised into confession when confronted by a forceful statement that their condition is a self-inflicted one and a shrewd guess as to the means employed to bring it about. This "cathartic confrontation," so to speak, has its dangers, however, when used on the cleverer or the more obstinate or designing types of patients, and only warns them into a more carefully guarded technic. The outright hysterical person is often genuinely unconscious of his act, or involved in some alteration of personality which makes a confessional denouncement, short of hypnosis, out of the question. Sleep episodes are of the greatest importance and, unless they are covered by a careful and prolonged watch, the actual technic of the injury infliction may remain a puzzle.

If "cathartic confrontation" fails, the next resort must be to hospitalization. Patients who for a significant lesion refuse hospital care raise *ipso facto* a presumption against themselves. Under hospital conditions the patient should be confined to bed, and a competent and discreet nurse, fully informed on facts and suspicions, placed in charge, with an equally competent relief on constant duty at night. If the lesion is dressable, a fixed dressing of bandage which before application has been soaked in a warm boiled laundry starch emulsion may be applied, with special precautions taken to see that it cannot be lifted or pushed up and down as on an extremity. Adhesive plaster is not effective, but collodion may be used to bind down edges. The "geography" and appearance of each dressing must be visualized in memory, and hence the same attendant should perform the dressing over a long period. The dressing method cannot be relied on in any other type than that which consists of the maintenance of a previously existing lesion in a state of activity. Weeks of day and night watching may be required to catch the

6. Walker, Norman: An Introduction to Dermatology, ed. 8, New York, William Wood & Co., 1925.
7. Ayres, Samuel, Jr.: Dermatitis Factitia Complicating Hysterical Paralysis, J. A. M. A. **73**: 1838 (Dec. 13) 1919.
8. Netherton, E. W.: Ohio State M. J. **23**: 215 (March) 1927.
9. MacKee, G. M.: Neurotic Excoriations, Arch. Dermat. & Syph. **1**: 256 (March) 1920.
10. Pusey, W. A., and Senear, F. E.: Neurotic Excoriations with Report of Cases, Arch. Dermat. & Syph. **1**: 270 (March) 1920.

patient in the act of producing new lesions at changing sites.

The nurse should be enjoined to a special discretion in regard to the family, for the "spoiled darling" type of patient has its allegiance and an angry dismissal will follow leakage of information or premature communication of suspicions. On the other hand, the cooperation

Fig. 2.—Detail view of the factitious lesions of the left arm. The gangrenous slough has separated and healing has begun. Note the angular configurations, and the normal terrain, the ulcer developing on perfectly nonreacting skin.

of the family may at times be essential, and its attitude should be carefully appraised at the outset. For this purpose not the most worried or clamorous member of the family should be picked as a cooperator but the colder, more aloof and insensitive, or even the jealous or disdainful member. It is a curious fact in our experience that patients themselves rarely work through a confederate except in the most obvious of beggar's tricks. It is disconcerting at times, after one's efforts to establish a proved case, to find the family physician unconvinced because he cannot reconcile the diagnosis with his own opinion of the patient's integrity and moral caliber.

COMMENT

In the light of the foregoing considerations, the case reported as the introduction to this summary presents the criteria for diagnosis characteristic of a self-inflicted gangrenous lesion of the skin presumably produced by a cauterant, the self-inflicted injury occurring in an hysterical person exhibiting states of somnambulism and of altered personality. At various points in the notes of nearly twenty years of observation, intimation appears that competent medical clinicians, surgeons and neurologists had subscribed to diagnoses of Raynaud's disease and of "neurotrophodermatosis." The diagnosis of Raynaud's disease overlooks the preponderance of evidence in favor of self-infliction and the undoubted hysterical background. It was first made at a time, however, when lesions on the body had not yet been produced in numbers and rested apparently on finger localization plus a pallor and gloss to the skin of certain fingers and complaints by the patient of pain in these as well as many other regions. Discoloration described as purplish was once observed in spots on the dorsums of the feet, and since these spots developed before hospital entry, no means of establishing their identity appears. It must be recalled that localized pallor is one of the familiar vasomotor phenomena of hysteria and, unless traced through to gangrene step by step under actual observation, cannot be accepted as part of a Raynaud syndrome in the face of unmistakable major hysteria with somnambulistic episodes. Purpuric lesions and suggillations (i. e., painful purple spots) are well recognized phenomena of self-inflicted injury and not necessarily parts of a Raynaud syndrome. The diagnosis of neurotrophodermatosis raises the very interesting question as to whether so-called spontaneous hysterical gangrene really exists. The occurrence of trophic (i. e., bullous) lesions in the skin of the hypnotized subject was observed, though not under ideal control, by the French students of hysteria. The entire question of spontaneous hysterical gangrene was reviewed by Towle [11] in 1907 in the light of the then existing material of forty-nine cases, compared with forty-one of artificial origin. He reached the conclusion that there is no convincing evidence that such a thing as spontaneous gangrene exists. Of the forty-nine alleged cases, forty-three were in women and 87 per cent definitely had hysteria. Preceding trauma was as frequent in the spontaneous as in the self-inflicted cases, and in both conditions the majority of the patients developed the first lesion near the site of injury. The rule of accessibility of the injured part applied equally in Towle's series to the two types; twice as many self-inflicted as spontaneous cases were limited to one part, which opposes the concept of ascending neuritis as the cause of the spontaneous cases. Since Towle's review, the conception of an entity such as spontaneous gangrene of the skin has steadily lost ground,[12] and it is

Fig. 3.—Amputations of toes performed under a previous diagnosis of Raynaud's disease.

probable that more searching examination in the individual case will indicate that self-infliction under the influence of the hysterical state underlies all manifestations of the so-called trophoneurotic gangrene. The literature amply supports the statement that the analysis of such cases may prove extremely difficult and that it may be a matter of months or years of observation before the method of self-infliction is finally detected.

11. Towle: J. Cutan. Dis. **25**: 477, 1907.
12. Smith, S. W.: Am. Med. **23**: 314 (May) 1928.

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SUMMARY

1. The case presented here is illustrative of presumably self-inflicted injury to the skin in an hysterical subject confused with Raynaud's disease and treated by multiple amputations over a period of nearly twenty years.

2. Self-inflicted lesions of the skin may be classified under the heads of neurotic excoriations and postural or habit spasm dermatoses; feigned eruptions in hysterical subjects, and malingering.

3. The self-inflicted lesion of the skin can be identified by certain physical criteria, plus a study of time-sequence factors, plus appraisal of the neurologic and psychiatric state of the patient, plus evaluation of the motive.

4. Foremost in physical characteristics are the bizarre shape, pattern and distribution of lesions and scars and their limitation to accessible regions of the body. The preponderance of burns (from 40 to 60 per cent) is also a notable fact.

5. The facies of the neurotic, the hysterical and the malingering patient is an important but not an infallible aid to diagnosis.

6. Various symptoms of hysteria form the chief elements in the neurologic background of feigned eruptions. Of these, anesthesias, functional eye changes and attacks of somnambulism and altered personality are the most important.

7. The motivation of the malingerer may be moral, religious, intellectual, economic or sexual stress.

8. The act of self-infliction may be detected by the technic described as "cathartic confrontation" and hospital observation.

9. There are many difficulties of diagnosis and much time may be required for a conclusive demonstration.

10. There are differential considerations to be taken into account, such as those involved in the reported case, including Raynaud's disease and neurotrophodermatosis.

My Diabetic Doctors.—One hundred and seventy-one doctors have consulted me for diabetes and 131 of these have had the true disease. One doctor proved to be a renal glycosuric; eleven are as yet only potential diabetics, and twenty-eight unclassified, nondescript glycosurics. The hereditary factor among 128 (in three unknown) of these physicians has been prominent, indeed the most frequent among any group of diabetics I have yet studied save that of the sixteen diabetic children of ten years' duration in whom it occurred in 44 per cent, and of the 200 living diabetic children in whom it was present in 31.5 per cent. The doctors show a total heredity of 28 per cent, including twenty-five cases of direct heredity and nineteen cases of the familial type with eight instances in whom both types were present. One cannot expect to secure a history of diabetic heredity in a much greater per cent than this unless it develops among the descendents of our diabetic children. The fat doctor is the diabetic doctor. Seventy-two among the 103 for whom the necessary data are available were overweight, twenty-six of normal weight, and only five underweight. Diabetes in the doctor begins at an earlier age than is the rule for diabetics as a group, and this holds despite the absence of children in the series. The onset of diabetes in my series is most frequent at 50 in women and 51 years of age in men, but in doctors the average age at onset is 47.6 years. Does this not mean that it has been discovered early? At onset of symptoms the one renal glycosuric was 34.8 years, the eleven potential diabetics averaged 35.9 years, and the twenty-eight unclassified glycosurics were 43.8 years. As the average physician in this country dies at the age of 62 years, the average diabetic doctor must live fifteen years after his diabetes develops or acknowledge himself conquered by his disease.—Joslin, E. P.: Diabetic Doctors, *J. Missouri M. A.*, April, 1929.

EARLY DIAGNOSIS OF PREGNANCY*

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The diagnosis of uterine pregnancy is readily made after the first two months of gestation in the average case, and in experienced hands an almost positive diagnosis is often possible during the first eight weeks of pregnancy. It is often of importance to make an early diagnosis between normal pregnancy and various pathologic conditions, notably fibromyomas of the uterus, extra-uterine pregnancy, inflammatory tumors and ovarian cystoma. I wish to emphasize a sign that can be recognized by pelvic examination in a high percentage of cases in the first month of pregnancy.

Ordinarily, the statement is made in textbooks of obstetrics that the diagnosis under six weeks is

Fig. 1.—Hegar's sign.

extremely difficult, and the signs that appear during the first three months are usually called "presumptive evidences" of pregnancy. These consist of urinary disturbances, Chadwick's hyperemia of the vagina and vulva, changes in the size and consistency of the breasts, amenorrhea, morning nausea, quickening, disturbances of pigmentation, changes in the blood serum, and mental and emotional changes. The appearance of the probable signs of pregnancy, namely, enlargement of the abdomen, changes in the cervix, and Braxton Hicks contractions, which develop later during the early months, usually make the diagnosis quite clear. The appearance of a clear-cut Hegar's sign makes the diagnosis practically unmistakable.

In searching for an early Hegar's sign, the experienced examining hand may in most cases unmistakably feel the doughy and at the same time elastic resiliency

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elicited from the uterus before the development of a typical Hegar's sign. This elastic consistency of the uterus, however, is variable, and considerable practice is required to make its recognition certain, as many normal nonpregnant uteri are deceptively soft. Any new criterion, then, or the elaboration of any existing signs that might make very early diagnosis more certain is a matter of considerable importance. Hegar's sign may be elicited at about the fifth week at the earliest (fig. 1). I have been interested in the various signs which have been described in the past. Von Braun [1] describes a longitudinal furrow on either the anterior or the posterior surface of the uterus which may appear as early as the first week of gestation (Williams [2]).

Fig. 2.—The examining finger making pressure on anterior uterine wall.

Dickinson [3] in 1892 described an early sign of pregnancy which makes the diagnosis possible between the second and sixth week after coitus, or between three and eight weeks after the beginning of the last menstrual period. He mentions elasticity or resiliency of the body of the pregnant uterus as recognizable in 80 per cent of cases and states in contradistinction that "the empty uterus is as hard as a raw potato." He also mentions a transverse fold on the anterior uterine wall as occurring in the fourth to sixth week after implantation of the ovum.

Ladinski [4] in 1907 considered various early stigmas of pregnancy and states that a very early diagnosis of uterine pregnancy can be made with almost absolute certainty. In the light of my own experience, I am inclined to think that a diagnosis of considerable accuracy can be arrived at within the first month after coitus with somewhat more than a fair degree of certainty. Ladinski has described the occurrence of a circular elastic area the size of the tip of the finger or larger in the anterior or posterior wall in the body of the uterus just above the junction of the body and the cervix. This area of elastic fluctuation was, of course, described by Dickinson and von Braun in 1899. The longitudinal furrow which von Braun explains as contraction and relaxation of the uterine musculature about the site of the implantation of the ovum probably represents a variation of the same sign. There have not been any noteworthy contributions from the standpoint of diagnosis by manual examination in recent years.

Various observations have been made by Robert Frank and others utilizing the hormone of the blood of pregnant women, which gives a characteristic physiologic response in experimental animals. Siddall has been able to produce by injection of extract of the blood of pregnant women characteristic hypertrophy of the uteri of mice, which was quite striking in 80 per cent of the cases. It is, however, worth while to emphasize this addition to the early signs already described, because an easy observation which may be made by a simple manual examination is apt to be more available and as reliable as any method, however scientifically accurate it may seem, which is dependent on the variable mechanism of a biologic reaction in an experimental animal.

The sign is as follows: In the vast majority of cases within a week or ten days after the first missed period, a slight resilience or elasticity of part of the fundus may be felt on manual examination. The vaginal finger moves its way, step by step, advancing up the anterior uterine wall. By careful palpation through the bladder, the uppermost point of the cervix is felt, above which is the slight depression marking the site of the future lower uterine segment. This is the forerunner of Hegar's sign. The upper part of the uterus may feel hard, firm and "like a potato," but immediately below this on the front of the fundus uteri the rubbery elasticity may be made out extremely early.

If the finger is pressed firmly into the uterine musculature at this point or just above, it may be felt by the examiner to be making an indentation or depression in the musculature beneath its palmar surface (fig. 2). If the finger is moved to the side and returned to the original point of pressure, the depression made by the finger may be felt clearly to persist in the uterine musculature (fig. 3). The impression is that of "pitting edema." Under ordinary circumstances this effect cannot be reproduced at all on normal nonpregnant uterine musculature.

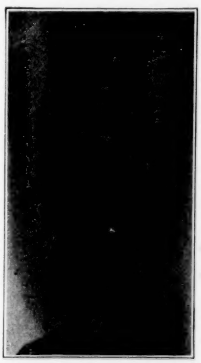

Fig. 3.—Permanent depression in uterine musculature being palpated by examining finger.

The occurrence of this reliable and simple diagnostic feature, which is probably the very early precursor of Hegar's sign, as are all of the previously mentioned grooves, depressions and areas of elasticity, in an extremely high percentage of cases of normal pregnancy has seemed to justify its mention. By the time Hegar's sign is easily recognizable, other signs usually have strongly suggested the diagnosis. The production, by manual pressure, of something analogous to pitting edema in an extremity is a perfectly obvious sign which can be recognized by any one.

In observations made in approximately forty cases of early pregnancy, in which a diagnosis had not yet been

1. Von Braun, R.: Über früh diagnose der Gravidität, Centralbl. f. Gynäk. **23**: 488, 1899.
2. Williams, W.: Obstetrics, New York, D. Appleton & Co., 1919.
3. Dickinson, R.: The Diagnosis of Pregnancy Between the Second and Seventh Weeks by Bimanual Examination: Thirty-Five Cases, J. Gynec. Obst. **2**: 544, 1892.
4. Ladinski, L.: The Diagnosis of Early Pregnancy with Reference to a Particular Sign, M. Rec. **42**: 597, 1907.

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made in the outpatient departments of the department of obstetrics and gynecology of Western Reserve School of Medicine, the sign was elicited in 60 per cent of cases within three weeks after the first missed period and in many of these within the first week. Further observation of these forty cases proved pregnancy in more than 90 per cent of cases in which the sign was positive. The explanation of the phenomenon of the changed consistency and the persistence of a compressed area in the uterine muscle is probably merely the heightened vascularity of the uterus and increased bogginess of its musculature.

I have no evidence that this sign has any bearing on the site of the implantation of the ovum. The area of elasticity, particularly this putty-like compressibility of the uterine muscle or at least something closely resembling it, seems to be present in ectopic pregnancy and it is therefore of no especial value in differential diagnosis. This sign has been extremely valuable to me in the diagnosis of uterine pregnancy in early cases in which "bellying" of the uterus is slight and before the globular shape and anteroposterior diameter increase have become demonstrable.

I feel fairly confident in saying that this is a reliable sign of early gravidity and that it frequently occurs when there are no other signs in the uterus which might make a diagnosis possible.

THE FOOT AND THE SHOE

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When seeing the shoes of the pedestrian of today, one rarely considers from their appearance that commonly discomforts and orthopedic problems are encased therein and most heroically endured because of the desire to wear shoes that create the impression that they protect dainty and healthy feet. It is surprising what a tremendous number of people wear improper shoes and, in most instances, shoes that are entirely too small for the feet. A great host of even the most intelligent class, especially women, wear shoes that are absolute misfits. This persistence in wearing an improperly fitted shoe proves itself injurious, particularly after middle age is reached.

In the case of women, most foot disorders come from wearing short shoes with high heels. Of course, this does not apply in all cases of bad feet. But the tendency is for the woman to wear a shoe which she thinks makes the foot appear smaller. Consequently, the high heel acts merely as a buffer, a reminder that the heel of the foot must not be walked on, that it should act only as a buttress to steady the forefoot. In this effort the toes are pushed to the front of the shoe and the common tendency is toward the development of minor callosities and even more serious deformities of the foot which become major considerations. With men the fault of wearing a short shoe is not so common as among women, but the wearing of a shoe that is entirely out of shape with the lines of the foot is the error. The shoe which the man wears is injuring his foot because it is built practically without any idea for support.

If one takes into consideration that the human foot is compelled today to walk on hard surfaces, it must be realized that the effort to ambulate causes a great tendency toward foot strain. This will become more evident if the architecture of the foot is first considered.

ARCHITECTURE OF FOOT

The foot is built on the principle of a tripod, for weight-bearing and locomotion, with efficiency being maintained through flexibility and resilience. The hind support or prop of the foot is rigid, broad and remarkably strong. This prop is the os calcis or calcaneus. It supports the astragalus, the keystone or proximal bone, on which rests the body weight transmitted to it from the tibia. Anteriorly, two supports of the flexible and movable variety complete the supporting structure carrying the astragalus. Distally, the body weight is referred to the five metatarsal bones and in this manner these bones enter into the arrangement as medial and lateral supports or pods for the tripod which carries the body weight. The scaphoid or navicular bone transmits its load, coming from the astragalus, to the internal, middle and external cuneiform bones. The first, second and third metatarsals receive this with their formation of the medial pod. The cuboid bone has transmitted to it the lateral load of the body weight coming from the astragalus and being thrown to the outer side of the foot. Thus, this weight is referred distally to the fourth and fifth metatarsal bones. These two bones enter into the formation of the lateral pod. At this point it would be well to mention that there are in the foot two arches of importance: the anterior, or transverse, arch and the longitudinal, or medial, arch.

The anterior, or transverse, arch is along the line of the tarsometatarsal articulations. The internal cuneiform, the middle cuneiform and the external cuneiform bones, articulating with the first, second and third metatarsal bones, and the cuboid bone articulating with the fourth and fifth metatarsal bones are bound together by strong ligaments which are of the transverse, longitudinal and diagonal types. This transverse arch extends through what is known as Lisfranc's or Chopart's joint.

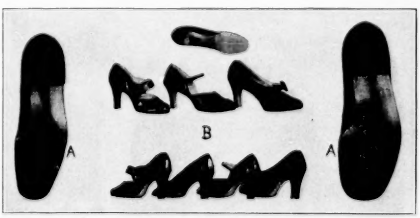

Fig. 1.—Types of shoes considered incorrect for preservation of good feet: *A, A,* men's shoes; *B,* women's shoes.

The longitudinal, or medial, arch with the astragalus as its summit is the arch extending from the posterior ridge of the os calcis anteriorly to the two piers described. The most rigid support is along the longitudinal arch extending from the ridge of the os calcis forward to the middle cuneiform and further anteriorly to the proximal end of the second metatarsal bone. The greatest concavity in this arch is between the middle and external cuneiform bones. Flexibility and resilience in the arches come from the ligaments. In the case of the longitudinal arch, the powerful calcaneoscaphoid, calcaneo-astragaloid, calcaneocuboid and plantar ligaments are the stays for preservation of the arch. The longitudinal arch with the os calcis as the posterior base

and the five metatarsals constituting the anterior base receives the major body weight anteriorly in the line of the third toe through the astragalus. The transverse arch acts anteriorly as a side prop or support laterally and medially to the longitudinal arch. Hence, if body weight is transmitted to the longitudinal arch it is carried anteriorly to both the anterior piers—lateral then medial. These supports being flexible and resilient are thus capable of reducing to a minimum a jar to the forefoot. This is in evidence when one alights sharply on the ground after jumping from a high place, or when running. The desire is to encourage the foot to remain in a position inside the shoe which will offer flexibility and resilience.

The shoe that women most enjoy wearing today is made for appearance and not for preservation of the flexibility and resilience of the foot. The same applies to the shoe for the man. Although his may be a more roomy shoe it in no way insures sufficient support for the arches, and under these conditions a relaxation of the ligamentous structures takes place. Consequently these structures lose their flexibility and resilience. Shoes are unfortunately most commonly constructed with the idea of creating beauty rather than support; flexibility and resilience for the foot are not fully considered. One finds that the manufacturer is endeavoring to maintain something of an arch by the construction of a more or less semirigid spring type of support for the long axis of the foot. Of course, in principle this is a help but it seems as though the full purpose for such a support is not realized in the building of the shoe. With the high heel of the woman's shoe of today it is not necessary to have such a support. This comes about through the fact that the foot carries its load on the lateral and medial props of the longitudinal arch and no weight is placed on the back portion, so that foot longitudinal flexibility and resilience are not considered. But the truth is that they should be considered and they are necessary.

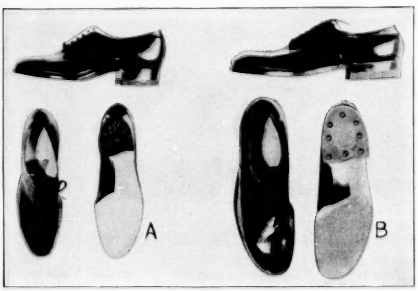

Fig. 2.—Types of shoes considered correct for good feet: *A*, woman's shoe; *B*, man's shoe.

In the case of the low wide heel found on the shoe worn by the man there is more thought given to flexibility and resilience, but again there is difficulty in the distribution of the load of the body weight. The anterior or transverse arch is almost entirely without a stay or lateral support. Thus the forefoot rests flat and pancake-like in the shoe with the arch dropping toward the lower level of the os calcis. Weight is delivered through the astragalus on the tripod. The longitudinal arch, with such a great amount of pressure and improper lateral support, is bound to relax with ordinary use. The scaphoid and cuboid ligamentous attachments go along with the relaxation of the keystone of the arch. When this occurs, a splaying or flaring out of the transverse arch takes place and in this way it is lost.

WHAT FACTORS SHOULD BE CONSIDERED IN THE CONSTRUCTION OF A SHOE?

In the effort to prescribe some definite type of shoe which will be worn primarily for support, and which

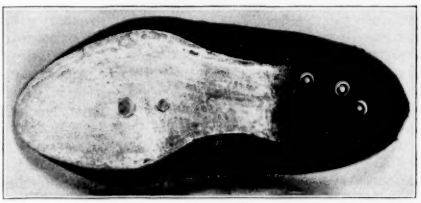

Fig. 3.—Shoe combining good features, but which has been absolutely improperly fitted.

shall least interfere with such possibilities, there has been designed a type of shoe incorporating what is believed will contribute most for the good of the foot, appearance being secondary.

The shoe in a general sense for the adult foot should be considered as basically embodying protection and support with comfort and durability. It must be so constructed that it will meet the hard surfaces on which the pedestrian is compelled to walk. Nevertheless, such a shoe must have a certain flexibility and resilience which shall conform somewhat with that of the foot. Soft leathers are not advocated for service and correct wear. A shoe constructed from vici kid or similar soft leather uppers is not recommended. The wearer of such a shoe can never keep it in good form. It loses its contour too readily and does not protect the foot against the hard knocks and bumps of ordinary use. A shoe need not adapt itself to the foot, although soft leathers do this. The shoe built of such leather becomes unsightly and does not afford any upper protection. Corrections which may be required for bad feet are to be applied to a common type of shoe which, in every detail, is considered as being built in the nearest conformity with the foot and with what the natural foot should wear.

Calf leather has been used for the construction of the one type of shoe that contributes most to protection and support, combined with comfort and durability. Whatever the shoe may be that is worn, it should always be placed on a shoe-tree and in a dry place after removal from the foot. Perspiration of the foot is absorbed in the leather of the shoe during wear. Curling or warping are to be expected when the shoe is not placed on a form or mold over which it may dry and remain when not being worn. Under such conditions the shoe becomes most unpresentable and loses its correct shape. It is advisable to change shoes at least twice daily.

THE SHOE

Because of the idea that shoes must primarily be made as neat and attractive as possible foot trouble is becoming an ever increasing issue. Protection and support with comfort and durability are unfortunately

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considered secondary by the masses. What sort of shoe will incorporate neatness, be attractive and still maintain these needed qualifications?

The semiround or medium box toe shoe is recommended. The blucher type of upper is used because it helps to pull up the lateral support, which is very much needed for the weak foot and the falling longitudinal arch. It further overcomes binding at the tarsometatarsal articulations. Lateral support is also helped by an extra long counter, which extends almost to the metatarsophalangeal articulation of the great toe. Thus, a tightly fitting adjustment around the longitudinal arch and instep is established. With this particular support and grip there is accomplished what is most to be desired from the upper of any shoe. Close adjustment is brought about through the snug fitting of the heel by tapering upward the back portion of the the counter. Hence the counter at the heel is made a size narrower at the top than at the base. Thus, the shoe is constructed so that when laced there will be practically no pressure anywhere distal to the metatarsophalangeal articulations. This allows for the possibility of freedom of movement of the toes. It is further established with the built-in arch, which is constructed of a flexible and resilient steel cushioned anteriorly against rubber. The inner line of the arch is built so that it is higher than the outer. If one looks into a model shoe this can be easily verified from its insole. This is done for the purpose of conforming most nearly with the natural anatomic longitudinal arch. Another feature incorporated in the model is the extension sole. This is common in all shoes, but in this type there is a flare-out beyond the usual amount on the outer side of the shoe near the metatarsophalangeal articulation. The purpose of this is to support the increased width of the foot during walking and weight-bearing when the transverse arch drops somewhat.

The question as to whether a shoe should be of the oxford or the high-top type is a personal one. A great many people prefer the high-top shoe for ankle support and warmth. However, the oxford is the shoe for general utility.

The ideal heel for shoes should be of a broad rubber over leather type. A modified Thomas heel is advocated in cases with painful dropping longitudinal arches. In the case of the woman's shoe, the height of the heel should be from 1¼ to 1¾ inches. In the man's shoe the height should be from 1 inch to 1⅜ inches. As most shoes are fit "short," it would be well to mention at this point that in measuring a foot for shoeing an allowance of from 1½ to 2½ sizes larger should be given to the shoe beyond the actual measurement of the foot during weight bearing.

The shape of the shoe is such that in general principle it conforms with the shape of the foot, the inside line being almost a straight line while the outside is a modified swing which most nearly conforms with the swing of the toes. For assurance of ample room at the joint of the great toe, the vamp is cut so that it shall measure a width and a half more than that of the standard width of the shoe, and a half size more through the thickness at the great toe. When laced, this shoe hugs about the os calcis and achilles tendon behind, and does likewise immediately behind the metatarsophalangeal articulations back to about the Chopart joint.

The foot should rest in the properly fitted shoe with the feeling that there is support during weight-bearing under the longitudinal arch and a binding feeling with comfort and support around the upper of the shoe over the instep. These features should be further found along the medial and lateral parts of the shoe when it is laced. The foot must fit into the heel of the shoe when laced, so that the upper portion of the counter will grip about the insertion of the achilles tendon firmly, yet comfortably. For the generally correct shoe the principle of wedging the inner or medial aspect of the heel about one-eighth inch has been adopted. This amount of wedging should be continued for ordinary wear at all times. Adjustments on this type of shoe to meet the demands of any particular pathologic condition are readily possible.

807 Professional Building.

OIL-ETHER COLONIC ANESTHESIA

CLINICAL EXPERIENCE WITH MORE THAN FIVE THOUSAND CASES

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My[1] first paper on this subject was read before the Seventeenth International Medical Congress in London, Aug. 11, 1913, and was published in New York in 1914. My second paper was read before the New York Society of Anesthetists, Nov. 20, 1913, and was published simultaneously in America and in England.[2]

EXPERIMENTAL BASIS

In the first paper, twenty-four experiments on dogs are noted and the protocol of one experiment is given. One of the deductions made was that without morphine the method is a failure. With morphine (from 0.01 to 0.03 Gm. per kilogram of body weight) ten consecutive successful experiments were carried out, with complete anesthesia and no alarming symptoms. A kymographic tracing of one of the dogs under oil-ether is given, showing the respiration and carotid blood pressure evenly and fully sustained (fig. 1). The physiology is outlined. In this paper are summarized the experiments, in vitro, of Baskerville,[3] who proved by many thousands of experiments that the rate of evaporation of ether from all oils, kept at body temperature in a water bath, was constant despite the changing ratio (fig. 2). Ethyl chloride cannot be used in this way, as was proved both in the chemical and in the physiologic laboratories by Baskerville and Wallace, because the rate of evaporation is uneven.

This preliminary animal work has been verified and all deductions have been proved in a quantitative way by Beckman[4] with a series of more than fifty animal experiments, without any failures. He found that 0.01 Gm. of morphine sulphate per kilogram of body weight, injected one hour preliminary to the introduction of the ether-oil, was always effective in inducing and maintaining surgical anesthesia, and that complete anesthesia lasted from one to one and a quarter hours.

1. Gwathmey, J. T.: Lancet **2**: 558 (Aug. 23) 1913; British M. J. **2**: 479 (Aug. 23) 1913; New York M. J., Jan. 31, 1914.
2. Gwathmey, J. T.: Lancet **2**: 1756, 1913. New York M. J. **98**: 1101, 1913.
3. Gwathmey, J. T.: Anesthesia, ed. 2, New York, Macmillan Company, 1924, p. 440. Baskerville, Charles: Am. J. Surg. **30**, Q. Supp. Anesth., p. 20 (Jan.) 1916.
4. Beckman, H.: J. Am. Vet. M. A. **67**, N. S. **20**, July, 1925.

At the first signs of returning consciousness [he continues] another full dose of the ether-oil mixture (1 ounce per 20 pounds [9 Kg.]) has been introduced and anesthesia maintained for an additional hour. . . . Muscular relaxation is always complete, though the partial retention of reflexes is always noted; in several cases dogs have responded to a whistle by partially raising the head while major surgery was being done on the abdomen. Careful observations of the respirations and pulse reveal these functions less disturbed than in inhalation anesthesia. . . . In none of the dogs have there been any symptoms of colitis, or of even the very slightest rectal irritation.

One animal used for routine laboratory work was killed and the colon and rectum carefully examined, but "no evidence of inflammation whatever could be found therein."

Beckman, referring to the experiments, in vitro, of Baskerville,[5] which showed the rate at which ether separates from ether-oil mixtures, says:

This definite rate of separation must apply also under the conditions obtaining in vivo; for were it possible for all, or a large part, of this ether to become available for absorption into the circulation at any one time, it should be expected that at least some cases of too profound anesthesia, if not actual deaths, would have been encountered in the series. No such cases occurred; but, on the other hand, in all instances, a definite quantity of ether per pound body weight[6] produced a satisfactory but not too deep anesthesia, which lasted for a predictable length of time, after which the animal quickly regained consciousness. This is taken as evidence that only a small portion of the total amount of ether placed in the colon is available to the circulation in a unit of time. The partial retention of reflexes (the lid reflex never entirely disappears) must be taken as further evidence for safety. . . .

When the correct amount of the mixture is administered per pound body weight, the method is absolutely controllable in both directions; the anesthesia may be terminated at any time by washing out the colon with tap water, with a rapid return to consciousness; the state may be prolonged for any desired length of time by adding, for every additional hour of anesthesia required, 1 ounce of the mixture per 20 pounds of body weight. If at any time the anesthesia seems too light, a cloth may be placed over the muzzle, thus compelling a partial rebreathing of the fumes, with an appreciable deepening of the state. . . . The actual amount of ether used—22.5 cc. (75 per cent of the mixture)—for inducing and maintaining surgical anesthesia is much smaller than required in any other method available to us for safe work in the laboratory.

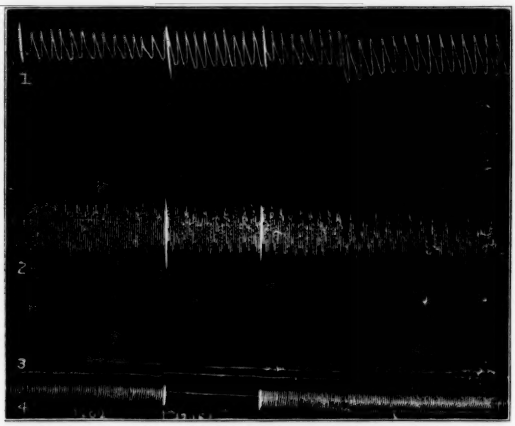

Fig. 1.—Tracings from dog under oil-ether anesthesia. The records from above downward are: (1) respiration; (2) carotid blood pressure; (3) base line at zero, and (4) time in half seconds. The anesthesia was begun at 11: 30.

In Beckman's experience,

Symptoms of colitis have never been encountered. Recovery has always been prompt and lasting. A measure of analgesia seems to persist for some time, as the animals in this series have seemed startlingly unaware of their wounds several hours after regaining consciousness.

Beckman is quoted at length because the results of his animal experiments parallel in every detail not only the previous animal experiments but also the clinical experience of those of us who understand and use oil-ether colonic anesthesia as a routine; i. e., whenever and wherever inhalation ether was formerly used.

Park[7] of the New York department of health laboratories at a later period proved that mixtures of oil and ether killed practically all *Bacillus coli* after two and one-half minutes' exposure in tubes of broth. Since infection from *Bacillus coli* is a factor to be reckoned with in many surgical operations, the bactericidal action of the oil-ether mixtures affords an added element of safety with this method of rectal anesthesia.

Thus it will be seen that few methods in medicine or surgery were ever more carefully investigated and controlled—physiologically, chemically and bacteriologically—before being tried clinically than was oil-ether colonic anesthesia.

THE FINAL TEST

Colonic anesthesia has long since passed the experimental stage. It is now used as a routine for selected cases in many hospitals; in the Skin and Cancer Hospital, New York, in more than 1,200 cases; in the Hazleton State Hospital, Hazleton, Pa., in more than 1,700 cases, principally thyroid operations; and in the Kessler-Hatfield Hospital, Huntington, W. V., in more than 2,500 cases, surgery of all kinds. The cases at the Skin and Cancer Hospital, requiring accurate anatomic dissection, last from one to seven hours, the average being three hours. In other hospitals the average operation for nonmalignant conditions is one hour. (The 1,200 Skin and Cancer cases should be called 3,600 cases if computed in hours.) In this series of more than 5,000 anesthesias a slight diarrhea in less than six cases occurred, which quickly passed off in one or two days. No deaths occurred that could in any way be attributed to the method. Oil-ether colonic anesthesia is now being used in the Mayo Clinic, Rochester, Minn. It is endorsed by many prominent surgeons both here and abroad, among them, Pickerill,[8] Wheeler,[9] Frazier,[10] Semken,[11] Coleman,[12]

5. Baskerville, Charles: Proc. Am. Phil. Soc. **54**: 218, 1915.
6. One ounce of the mixture (75 per cent ether and 25 per cent olive oil) per 20 pounds of dog was in all cases effective.

7. Park, cited by Gwathmey: Anesthesia, p. 441.
8. Pickerill, H. P.: Facial Surgery, Edinburgh, E. & S. Livingstone, 1924.
9. Wheeler, W. I. de C.: Brit. M. J. **2**: 1223 (Dec. 26) 1925.
10. Frazier, C. H.: Ann. Surg. **87**: 161 (Feb.) 1928.
11. Semken, George: Personal communication to the author.
12. Coleman, Robert: Brit. M. J. **1**: 942 (June 5) 1926.

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von Lohmeyer,[13] Collin,[14] Ney,[15] and Meyer and Robbins.[16] The routine use of the method in hospitals and endorsement by prominent surgeons are based on several factors not common to local, spinal, regional and inhalation anesthesia: removal of psychic shock; absence of unpleasant memories or untoward sequelae; less bleeding, and uneventful recovery.

The Removal of Psychic Shock.—Psychic shock is usual with all of the methods mentioned unless preceded by medication that renders the patient unconscious or nearly so, but this is not customary at the present time. Colonic anesthesia is the ideal, as it combines the terminal with the preliminary medication, and the patient is unconscious or obviously indifferent when brought to the operating room. Patients have been anesthetized with this method many times in their own beds and without their knowledge. This may be a life or death matter with the extremely nervous, as in toxic goiters. It is especially so in the insane.[1]

CASE 6.—The patient was an insane woman with possibility of trouble if she learned of the operation. The anesthetic was administered by the nurse in the patient's own room; when unconscious, the patient was picked up and placed on the operating table in an adjoining room; the operation was performed, and the patient was returned to bed without ever seeing a physician.

Absence of Unpleasant Memories or Untoward Sequelae.—Usually no irritation follows its use; no diarrhea, bloody stools, nor even a slight after-irritation. This has been proved definitely and conclusively at the Lying-In Hospital, New York. Obstetric analgesia (with 2½ ounces of ether), on account of the quinine content, is more irritating than colonic anesthesia (with 4, 5 and 6 ounces of ether) notwithstanding the larger amount used in colonic anesthesia, yet no irritation has occurred except once or twice in more than 17,000 cases, although the rectum is never washed out afterward.

Less Bleeding.—There is much less bleeding than with inhalation on account of the normal respirations (20 or less) and the absence of cyanosis and asphyxial elements. If the evaporation and absorption were not constant, the respiration, pulse and blood pressure would vary from time to time; but these vary only with the necessary manipulations of the surgeon. There is never anesthetic shock and recovery, as would be the case if all the ether were absorbed at one time when first introduced. The sequence of events is as follows:

The patient first goes into a quiet sleep with no second stage or stage of excitement, the breathing being normal. This gradually merges into surgical anesthesia, when the patient is lifted on a stretcher and carried to the operating room. After operation the patient is returned to bed, when the colon is washed out. The patient now merges into a quiet sleep and awakens in a pain-free condition.

Uneventful Recovery.—Recovery is uneventful with entire absence of nausea, vomiting, wound and gas pains, the patient quite often not requiring any postoperative sedative. All the nursing, trouble and care are preoperative, and the postoperative comfort of the patient fully warrants this care.

13. Von Lohmeyer: Arch. f. klin. Chir. (Kongressbericht) **126**: 174-176, 1923.
14. Collin, P.: Paris thesis, **13**, 1924.
15. Ney, K. W.: Effect of Inhalation Anesthesia on Intracranial Pressure, J. A. M. A. **90**: 827 (March 17) 1928.
16. Meyer, H. W., and Robbins, B. F.: Colonic Anesthesia, J. A. M. A. **83**: 1581 (Nov. 15) 1924.

With these factors in favor of the method, why is it not more generally used?

The physiology is not clearly grasped. The entire mixture of ether and oil when placed in the colon is still outside the body for all practical purposes, as no physiologic effect occurs until the ether evaporates from the oil and is absorbed into the blood stream. The rate of evaporation is constant and is governed by certain inflexible laws. Ether boils at 96 F.; the body temperature is 98.6 F. When the mixture is placed in the colon it is usually from 80 to 90 F. As it approaches 96 F., evaporation begins and proceeds at a uniform rate, a drachm and a third every five minutes. The colon is slightly distended as absorption begins. As the ether continues to be evaporated, the colon becomes fully distended and absorption is slightly checked.[17] As the ether evaporates, heat is extracted from the surrounding parts, and both mixture and colon are cooled off, thus retarding both evaporation and absorption. This refrigerating and heating process recurs automatically until all the ether has parted from the oil. A thermometer placed in the axilla or mouth shows that the patient's temperature is normal throughout, and the skin is usually warm. A most important safety factor

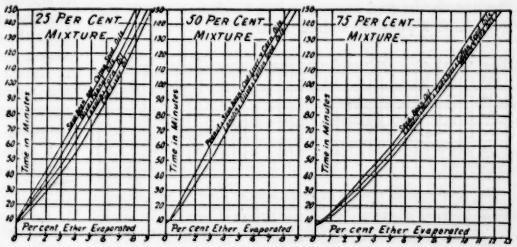

Fig. 2.—Rates of evaporation from 25, 50 and 75 per cent mixtures of oils and ether (Baskerville).

is the very great difference between the comparatively small absorptive surface of the colon and the large eliminative surface of the lungs; therefore the tendency of the anesthesia is to lighten rather than to increase in depth.

Heart, kidney or lung complications indicate colonic and contraindicate inhalation ether. As there is no hyperpnea with the former method, strain is not thrown on the heart at any time and there is less bleeding than with any inhalation method regardless of the nature of the operation. One extreme case of heart disease may be mentioned:[18]

CASE 13.—A child, aged 7½ years, had septic tonsils, swollen and inflamed; there was a systolic murmur and the foramen ovale was patent. In this case also the solution was given by the nurse. The child did not see the physicians or even know that an operation was performed. He went under the anesthetic quietly and easily. On recovery he told his mother that he had a nosebleed while asleep.

Kidney diseases do not contraindicate this method. Lundy[19] of the Mayo Clinic says: "I have not hesitated to use oil-ether colonic anesthesia in cases where there was a solitary kidney apparently in good condition."

Tuberculosis of the lungs is not a contraindication. A tuberculous patient was given 2 ounces of ether and

17. Gwathmey: Anesthesia, p. 451.
18. Gwathmey: Anesthesia, p. 458.
19. Lundy, J. S.: Proc. Staff Meet., Mayo Clin. **2**: 226, 1927.

1 ounce of oil twice a week for four months, with the object of arresting or controlling the disease. While the patient held his own, there was not enough improvement to justify the continuance. It has been frequently used in patients with bronchitis, asthma and tuberculosis, and in no instance has the patient's condition been aggravated. Comparative statistical studies have been made in the Kessler-Hatfield Hospital in many thousands of cases, and the statement is made that "postoperative pneumonias are a thing of the past since using oil-ether colonic anesthesia." [20]

No injury to the liver has ever been shown either in the laboratory or clinically.

INDICATIONS

Colonic anesthesia is especially indicated in the alcoholic and obese, in brain surgery (when inhalation anesthesia of any type will greatly increase the intracranial pressure and consequential bleeding, especially if attended by straining and vomiting, which will often induce a marked cerebral edema or exhaust an impaired medullary circulation), in esophagoscopy, in suspension laryngoscopy, bronchoscopy and gastroscopy, hyperthyroidism and in all operations on the upper respiratory tract, head, neck and chest, in which the presence of the anesthetist and apparatus is a hindrance to the surgeon, and a possible source of infection.

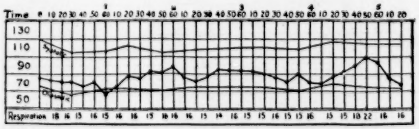

Fig. 3.—Operation, excision of epithelioma of lower lip and dissection of right cervical lymph nodes. Operator, Dr. Hanford, service of Dr. Semken. March 18, 1929. Anesthesia, 7:15 a. m., chlorbutanol suppository, 10 grains. 7:30 a. m., morphine sulphate, ¼ grain; atropine, 1/150 grain. 7:45 a. m., oil-ether colonic anesthesia. Anesthetist, Dr. Watter. Total amount given, ether, 6 ounces; oil, 3 ounces; chloral hydrate, 10 grains; paraldehyde, 2 drachms. Occasional supplement of chloroform. Pulse, blood pressure and respiration same at beginning and end of operation. Patient in good condition. Solid lines, blood pressure; heavy line with dots, pulse.

CONTRAINDICATIONS

It is contraindicated in any pathologic condition of the lower bowel, such as colitis, hemorrhoids, ulcer and fistula in ano.

But the contraindications are not the same as those for general anesthesia with ether, as the pharmacologic action is entirely different. It has already been pointed out that it can be used with entire safety in many pathologic conditions in which inhalation ether is absolutely prohibited. The brain is never as deeply affected with colonic as with inhalation anesthesia.

Every surgeon and hospital has a routine procedure for special cases, a procedure that, for them, gives the best results. Whatever the method, it would be irrational and dangerous not to use that method in such cases. Oil-ether colonic anesthesia can be used whenever ether by inhalation can be used, except, as stated, for pathologic conditions of the lower bowel. It can also be used when ether by inhalation is contraindicated. Whenever drop ether is used as a routine, it can be replaced by oil-ether with every assurance of its being safe, and in our experience with a decrease in both morbidity and mortality. The greatest advantage of this method over all others is its safety from both immediate and remote untoward effects. The margin of safety, as determined by the difference between the anesthetic dose and the toxic dose, is much greater than when given by inhalation, but its principal factor of safety is the length of time between the anesthetic and the toxic dose. It requires from ten to fifteen minutes for the retention enema, ten to fifteen minutes for the patient to fall asleep after receiving the enema, and another ten to fifteen minutes for the patient to reach surgical anesthesia; i. e., from thirty to forty-five minutes. Nothing happens suddenly with this method. The sequence of events is sleep, anesthesia and operation, sleep and analgesic awakening. If any undesirable symptoms develop, an equally long time would be given to correct them. There is no possibility of sudden death here.

In the majority of cases the anesthetist does not have anything to do during the operation except to record the pulse and respiration from time to time. The introduction, by rectum, of 1 ounce of the mixture for every additional hour, or a supplementary anesthetic, is usually needed if the operation lasts more than three hours, and about 25 per cent of the cases need a preliminary of a few drops of chloroform, or ether, or ethylene, or nitrous oxide and oxygen, as the operation begins. It is a mistake (and some surgeons do this) to abolish the anesthetist entirely in colonic anesthesia, as sooner or later the exceptional case will occur that requires supervision that cannot be given by an operating surgeon, as is shown in the three following cases. Within the last ten years I have had only three cases to cause me uneasiness. Their correction will illustrate my meaning.

A woman, past middle life, was edentulous, and had an excision of the breast for carcinoma. In spite of a seemingly free airway the pupil began dilating before the operation, a long one, had begun. The patient was now in the danger zone. If the oil-ether had been withdrawn, that would have corrected the trouble, but the anesthetist would probably have had to supplement later and his presence would have intrefered with the operation. A hypodermoclysis was started and continued for some time, thus diluting the blood stream and the anesthetic; the pupil gradually came back to normal and the patient made an uneventful recovery after an operation lasting more than three hours.

A woman received an overdose of morphine; about 2 ounces of the mixture was withdrawn and the jaw and tongue were held forward during most of the operation. A supplement of a few drops of chloroform was needed toward the end of the operation.

A young woman underwent a plastic operation of the nose; she developed respiratory trouble just a few minutes after the surgeon started operating. The sheets were quickly thrown aside, the mouth gag was inserted, the throat swabbed out and the tampon inserted. The operation was concluded without further interruption. The next week a similar operation was performed by the same surgeon, who this time took the precaution to pass a catheter through the nose and draw up a large tampon in the posterior nares, which effectually prevented any blood from passing. This time the operation was uneventful.

When surgical anesthesia is reached, as the brain is but slightly affected, there is never the picture of utter helplessness seen with inhalation ether anesthesia; the jaw rarely has to be held forward, as there is seldom any interference with respiration; the breathing is free and natural; the auxiliary breathing muscles are never brought into play; the alae of the nose rarely move. With inhalation anesthesia, the hyperpnea is sometimes so great that the alae are tightly closed, compelling the patient to breathe through the mouth, throwing a heavy load on the heart, and requiring the closest attention of the anesthetist to prevent a collapse. Respiratory

20. Hatfield: Personal communication to the author.

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disorders are the cause of more than 90 per cent of all deaths with inhalation anesthesia.

Respiratory disorders are usually nonexistent with colonic anesthesia. In table 1 the breathing of a patient under inhalation anesthesia may be compared with that of the same patient under colonic anesthesia for a similar operation, with the same surgeon and anesthetist,[21] the operation lasting three hours.

TABLE 1.—*Comparison of Breathing of Patient Under Inhalation and Colonic Anesthesia.*

	Inhalation Ether	Oil-Ether Colonic
Pulse	120–170	125
Pulse average	160–170	125
Respiration	28–36	20–24
Blood pressure:		
Start	140 systolic	120
Finish	115 systolic	120
Start	90–100 diastolic	80
Finish	60 diastolic	80

With inhalation ether the pulse went up and the blood pressure down, with respiration 28 to 36. With colonic anesthesia the pulse was 125 at the commencement of the anesthesia and exactly the same at the conclusion, and the respiration was from 20 to 24. At the end of the operation the patient was in "fair" condition with inhalation, but in "good" condition with colonic anesthesia. These cases and the chart of a recent case from the New York Skin and Cancer Hospital give a fair comparison of the difference between inhalation and colonic anesthesia (fig. 3). The Skin and Cancer case showed the physiologic balance between respiration and pulse undisturbed for more than five hours.

The greatest advantage of colonic over inhalation anesthesia is that the depth of the anesthesia is under more perfect control at all times. Any error in judgment may be quickly rectified, if the anesthesia is too light, by one of the following measures:

1. The placing of a gauze mask covered with a hot towel, or simply a hot towel, puckered at the mouth and nose, over the face, to insure rebreathing of the ether vapor.

2. Supplementing by a few drops of chloroform or ether on the mask or towel, or with ethylene or nitrous oxide and oxygen.

3. The addition by rectum of 1 or 2 ounces of the 65 or 75 per cent mixture at any time—before commencement of the operation, during the operation or to prolong the operation. The operation may also be prolonged or the anesthesia deepened by an oil-ether drip (from 65 to 75 per cent solution) or by a 6 per cent ether solution in water or dextrose as a rectal drip.

If the anesthesia is too deep, by one of the following:

1. The removal of all coverings from the face. If this is not sufficient,

2. Insertion of an airway tube. If indicated, giving oxygen or oxygen and carbon dioxide additionally.

3. A hypodermoclysis, rectal drip or intravenous transfusion.

4. Withdrawal of some of the mixture.

The depth of the anesthesia may be regulated also by keeping the container holding the mixture attached to the catheter in the rectum throughout the operation; if the anesthesia is too light, the container may be elevated, allowing the full mixture to pass into the patient; if too deep, the container may be lowered, and the abdomen pressed, allowing the mixture to return to the container. By raising and lowering the container, as indicated by the patient's condition, the anesthesia may be kept at any desired level. This method is used when a series of patients have to be operated on, and a light anesthesia maintained until that special patient is called for.

The anesthesia is terminated at any time by withdrawal of the mixture, a thorough washing out of the rectum and colon, in the patient's own bed, and the insertion of from 4 to 6 ounces of coffee. The patient now merges into a quiet sleep, is no longer under the anesthetic, and needs only the usual care and observation that any sleeping patient requires. An anesthetist's presence would be superfluous.

TECHNIC

1. The night before operation, no laxative is given within thirty-six hours of operation, and nothing by mouth after midnight. For supper tea and toast are given. Two hours after supper a soapsuds enema is given, followed by two tap-water enemas, twenty minutes apart, the patient being required to walk to the toilet after each enema. Ten grains (0.6 Gm.) of barbital or soluble barbital (or any other hypnotic or sedative that is customarily given) should be administered thirty minutes after the last enema. One should be sure that the patient has a quiet, restful night.

2. The day of operation (morning), all visitors should be excluded. Two hours before operation a low clear-water enema should be given and the patient required to go to the toilet for the last time. When the patient returns from the toilet, one-eighth grain (0.008 Gm.) of morphine sulphate should be given intramuscularly. A long needle should be inserted and the solution injected deep into the deltoid muscle as the needle is being gradually withdrawn. A chlorbutanol suppository, 10 grains, should then be inserted deeply. Thirty minutes later the injection is repeated with 1/150 grain (0.4 Mg.) of atropine.

3. Rectal instillation: One hour before operation, one should arrange a lifting sheet to include the shoulders and hips and the patient should be placed on the left side in Sims' position. The catheter and rubber tubing are then filled to the funnel with warm oil in order to exclude air. The catheter is inserted from 6 to 8 inches. The funnel is lowered below the level of the anus and the oil allowed to return to the funnel with any gas that may be left. If an unusual amount of fecal matter or water is present it should be allowed to drain and then one should refill with 1 ounce of oil, care being taken to exclude all air, elevate the funnel and add the mixture or "retention enema,"

TABLE 2.—*Mixture for Retention Enema*

Ether	Oil	Paraldehyde
4 ounces	2 ounces	2 drachms (7.5 cc.)
5 ounces	2½ ounces	2 drachms (7.5 cc.)
6 ounces	3 ounces	2 drachms (7.5 cc.)

which has been thoroughly mixed in a bottle and allowed to stand in warm water for a few minutes, care being taken not to admit air between the oil in the tube and the mixture in the funnel. From fifteen to twenty minutes should be spent in introducing the mixture. The catheter is clamped below the glass connection so that no air can follow, and then the catheter is withdrawn. During this time and for fifteen minutes afterward pressure is made on the perineum with a towel.

The hypodermics (given in step 2) can be entirely avoided by giving the following retention enema, twenty minutes after the patient has returned from the toilet for last time: morphine sulphate, ¼ grain (0.016 Gm.); paraldehyde, 2 drachms (8 cc.); chloral hydrate, 10 grains (0.65 Gm. 3); ether and olive oil, each 1 ounce (30 cc.).

This is mixed thoroughly, and the catheter inserted at least 6 inches within the rectum, and ten minutes taken to administer it. The catheter is clamped and allowed to remain in situ.

Forty minutes before the operation the following is given as a final enema; ether, 3 ounces (90 cc.); olive oil, 1½ ounces (45 cc.), which should also take ten minutes to administer.

4. After receiving the final enema, the patient may be allowed to lie in the position that is most comfortable. Quiet must be

21. Frazier, C. H.: Colonic Anesthesia in Operations upon the Brain, Ann. Surg. 87:2 (Feb.) 1928.

maintained. Moist cotton is placed in the ears and the face covered (including mouth and nose) with a warm moist towel. If in a ward, the bed should be screened. If in a room, the shades lowered, the light excluded and the door closed. One should give only necessary attention, talking in a quiet voice and making all manipulations as gently as possible. The patient should not be allowed to talk.

5. When the patient is placed on the table, a wide strap should be buckled just above the knees and the hands should be secured by the sides. An occasional slight movement is not an indication to supplement the anesthesia: continued movement is. The patient is more analgized than anesthetized. Occasionally he may talk while being operated on. If supplementary anesthesia is needed it is never necessary to induce deep surgical anesthesia. A few drops of ether or chloroform, or oxygen from 20 to 50 per cent, with nitrous oxide or ethylene to quiet the patient, is all that is necessary.

The danger signals are (1) slight cyanosis, (2) dulled lid reflex and (3) stertor. Any one or all of these signs usually indicate some obstruction in the respiratory passages, and this is usually remedied by simply supporting the lower jaw. The greatest danger, however, is failure to distinguish between analgesia and unconsciousness, which is usual with colonic anesthesia, and surgical inhalation anesthesia. If a third stage inhalation anesthesia is superimposed on a light colonic anesthesia, the patient would be plunged into the fourth or danger zone immediately.

SUMMARY

Clinical experience has proved that:

1. A 65 or 75 per cent solution of ether in oil is nonirritating; therefore additional oil, increasing the bulk, would only add to the discomfort of the patient.

2. Postoperative pneumonia, as far as ether is concerned, is a thing of the past.

3. It is certain that colonic anesthesia, conducted with skill, is safer than inhalation anesthesia followed as a routine, without judgment, care and skill. The weight should be taken into consideration, but the condition, habits and vitality of the patient count more than the weight in determining the dosage. Dosage for human beings cannot be regulated by the same rules as dosage for dogs. The preliminary medication would also determine the amount of ether.

4. Colonic anesthesia is indicated when ether inhalation is contraindicated, as in heart and kidney disease, in the tuberculous, in asthmatic patients, and in the extremely nervous and the insane.

5. It may be employed in a room with an open flame, provided the mixture is in a bottle and is poured directly into the funnel connected with the patient. The use of a cautery in or around the mouth is not contraindicated with oil-ether colonic anesthesia; it is contraindicated with inhalation ether.

6. The pharmacologic action is different from that of ether. The first reflex of a patient coming out of inhalation ether is pain. The colonic patient usually wakens in a pain-free state and quite often does not require any postoperative sedative. Not only so, but he is sometimes unaware of the operation until told. The brain is never as deeply affected with colonic as with inhalation anesthesia.

7. The possibility of infection, of entering a vein, or of injuring an important nerve may occur with local, spinal, sacral, paravertebral and regional anesthesia. This possibility need not be considered with colonic anesthesia.

8. In the oil-ether colonic method, the anesthesia is always under control. Covering the face to insure rebreathing, or removal of the covering to dilute the ether vapor, is usually all that is necessary to regulate it, though there are other methods.

9. Oil-ether colonic anesthesia has wider limits of safety than any inhalation method, ether or ethylene or nitrous oxide and oxygen. The principal safety factor is the length of time available for the correction of any undesirable symptoms, if any should appear. With inhalation methods, the sequence of events is rapid.

10. Oil-ether colonic anesthesia is a matter of time and technic. When the nurses thoroughly understand the method, the surgeon's time is conserved, which is of the utmost importance especially to a large clinic or a busy surgeon. The patient is usually anesthetized and waiting for the surgeon.

11. Any pathologic condition of the bowel contraindicates this method.

DIET IN TUBERCULOSIS

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I was stimulated to write on the somewhat trite subject of diet in tuberculosis because of the number of patients I am constantly seeing whose stomachs have been upset and digestion impaired by what seemed to me to be perfectly obvious errors in diet. In some cases the fault lay with the patient himself, who on being told that he had consumption quite naturally had associated that word in his mind with "milk and eggs." But in most instances the fault lay with the physician who had deliberately advised 1 or 2 quarts of milk and five or six raw eggs in addition to three heavy meals, not to mention eggnogs, cream, cod liver and olive oil, and often lunches between meals. I had imagined that the days of forced feeding and of stuffing in tuberculosis were past. I had taken it for granted that what was perfectly familiar to those of us intimately associated with the problem of the consumptive's diet and with the radical changes in regard to this that have taken place during recent years was likewise known to the general practitioner. That such is not the case is becoming increasingly evident to me every day. As in the early diagnosis of tuberculosis, apparently the general public is advancing in its knowledge of the subject of proper feeding in tuberculosis faster than the medical profession. The reason for this is obvious. There are many excellent sound and up-to-date books on the subject available to patients and widely read by them and their friends, while in our leading medical schools I doubt very much if the subject of diet is touched on and, if so, not by a man who has had practical experience in this line. The general textbooks on treatment of this disease either leave out the subject of diet altogether or give an entirely wrong impression with regard to it.

In looking over various articles on the subject of diet in tuberculosis, one finds an amazing diversity of opinion. Sauerbruch, Hermannsdorfer and Gerson [1] base their opinion on the theory that acidosis in disease is a defensive mechanism of the body and hence the food in tuberculosis should be of such a kind as will increase acidosis. Forbidden foods in the diet recommended by them are sodium chloride, canned foods of all kinds, smoked meat or fish, vinegar, meat extracts and bouillon cubes. Restricted foods are fresh meat

1. Sauerbruch, F.; Hermannsdorfer, A., and Gerson, M.: München. med. Wchnschr. 73:47 (Jan. 8) 1926.

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limited to 500 Gm. a week, organs of all kinds and fresh fish. Medication consists of 45 Gm. a day of cod liver oil or three times a day a heaping teaspoonful of a salt mixture made from a combination of calcium, magnesium, strontium, sodium, phosphoric acid, sulphates and other substances. They report marked improvement in advanced cases of tuberculosis by this diet. On the other hand, Martin [2] states that in treating tuberculosis one should aim for a slight alkalosis of the blood and of the tissues and not for an acidosis, and he arranges his diet accordingly. Baeyer [3] has found that tuberculous patients thrive on a diet of dry food, while Myers [4] is equally sure that vitamin A is of the greatest importance in the treatment of tuberculosis and gives the rather dangerous advice that the patient should expose himself to the sun and artificial sun lamps. Logan Clendening, in his book written in 1924, says: "It is generally understood and practiced that the patient with tuberculosis should be overfed. The idea of hyperalimentation in tuberculosis has been so well grounded clinically and has been so long productive of good results that there is no reason to cast about for a modification of it." In addition to three large meals a day, he advises lunches in the middle of the morning and afternoon and at bedtime a concentrated, easily digested, caloric high protein food of some kind.

In view of these varying opinions coming from high-grade men, it is not surprising that the general practitioner finds it difficult to decide as to the best diet for his tuberculous patient. Compare, on the other hand, the foregoing quotations with the following remarks on this subject, taken from books by well known tuberculosis specialists available to the general public and to patients and widely read by them:

Dr. Lawrason Brown, for instance, in his book published in 1928, states that a patient who is underweight should eat as little food as he can in order to gain weight. He advises three good meals and two or three glasses of milk with or between meals and believes that cooked eggs are better than raw. Dr. John Potts, in his book published in 1927, plainly says: "The first thing to learn is not to overfeed the patient. The patient does not recover by getting fat. Milk is constipating to many people. Eggs are excellent food, more easily digested when slightly cooked, not more than three daily. . . . Do not let a sympathetic grandmother stuff the patient." Dr. Gerald Webb, whose book was also published in 1927, states that a great many long and detailed directions are often given about diet in tuberculosis quite unnecessarily. The idea of stuffing in tuberculosis is an outgrown fad and getting fat does not cure tuberculosis. Lunches are of doubtful benefit and are liable to destroy the appetite. In my own book, the last edition of which was printed in 1925, I state that "the days of forced feeding are past. Each patient presents an individual problem. . . . A little food daintily and attractively served." At the time this book first appeared (1916) I believed that there should be, in addition to three regular meals a day, light lunches at 11 a. m. and at 4 p. m. Since then I have completely changed my mind about this.

REPLIES TO QUESTIONNAIRE

In order to get accurate and up-to-date information on this subject and to present this matter of feeding the tuberculous patient in a plain and practical way available for general practitioners, I wrote personal letters to forty or fifty men in this country, each one a well known specialist on this subject, asking eight questions. I received thirty-six excellent and detailed answers, which I am here summarzing.

1. Do you believe in lunches between meals? If so, under what conditions? To this question twenty-three said "yes" but only under certain conditions, one replied only when undernourished and in exceptional cases, four advised lunches in every case, while nine answered in the negative, that under no conditions did they believe in lunches between meals. Dr. Jeremiah Metzger, for instance, states that he does not ordinarily believe in such lunches and when given they should be very light, only enough to satisfy the patient and not to interfere with his regular appetite. Dr. J. Woods Price of Sarnac Lake answered "never if it disturbs appetite." Dr. Hugh Kinghorn of Sarnac says "yes, if the patient can stand it; I advise a glass of milk or raw egg between meals especially at the onset of his treatment." Dr. H. R. H. Landis of Philadelphia says "yes, but only when markedly underweight," while Dr. David Stewart of Manitoba, Canada, replies with an emphatic "no, only in cases so rare as not to merit consideration." Dr. Charles Browning of Los Angeles, in a most careful and studious reply to this question, says "not ordinarily; only when the patient is not eating enough with his regular meals or if he is accustomed to something between meals." Dr. Bayard Crane of Rutland, Mass., says that he advises lunches only until normal weight has been reached. Dr. Logan Clendening has somewhat modified his ideas of 1924 on this subject as quoted before and says "I let the patient follow his appetite to a considerable extent, pushing feeding in early stages if actual nausea does not prevent." The consensus from a careful study of these thirty-six letters is that unless the patient is underweight or presents some other dietary problem demanding it, he is better off sticking to three good meals a day.

2. Do you ever advise eggnogs? Twenty-one replies were an emphatic "no"; three said "yes"; twelve said "yes" if there were special reasons for so doing. Apparently some physicians feel that the eggnog must of necessity contain alcohol, as one physician answered this question "yes, if alcohol is indicated" and another from the South said "no, because we have no 'stick' to put in it." Dr. Carroll Edson of Denver agrees entirely with my own opinion on the subject when he states that the eggnog is an invention of the devil and the surest way of upsetting the digestion, while Dr. Alexius Forster of Colorado Springs considers the giving of eggnogs a most pernicious practice. Dr. Holden of Denver advises strongly against their use, while Dr. Clendening says "yes, most of my egg is given in the form of eggnogs." The opinion in regard to this subject was strongly against the giving of eggnogs in any form at any time. With this I am in hearty accord.

3. Do you believe in raw eggs and, if so, how do you advise the patient to take them? Curiously enough, there were no definitely affirmative replies to this question. There were sixteen men who believed in giving raw eggs but only in exceptional cases and twenty who said they never gave raw eggs. Dr. Henry Sewall of Denver wrote that "if people could stomach raw eggs they should be encouraged" but spoke of one patient who boasted as to the consumption of fourteen raw eggs a day who was long since dead. Dr. Henry

2. Martin, C.: Ztschr. f. Tuberk. **46**: 132-136, 1926.
3. Von Baeyer, H.: Zentralbl. f. Chir. **54**: 3080-3081 (Dec. 3) 1927.
4. Myers, J. A.: Minnesota Med. **9**: 121-124 (March) 1926.

Chadwick advised against more than two eggs a day, raw or cooked, and thought raw eggs no better than cooked ones. Dr. E. O. Otis said "no, except under special circumstances." Dr. Carroll Edson advised giving a raw egg occasionally at the end of a meal, such as breakfast, taken like a pill. Dr. Harry Lee Barnes of Rhode Island gives them only for febrile bed patients, and Dr. C. Hartwell Cocke of Asheville, N. C., gives them occasionally in cold water after meals. Dr. Hugh Kinghorn of Saranac Lake, an ardent advocate of forced feeding, gives raw eggs between meals with orange juice or vinegar, while the late Dr. Charles Minor of Asheville considered them among the nonessentials and had ceased using them. Dr. Landis said that he had abandoned raw eggs, while Dr. David Stewart of Manitoba states likewise that he has never ordered a single raw egg. It is evident that practically all these physicians were doubtful about the value of raw eggs.

4. As a general proposition, how much extra milk is advisable? Of the thirty-six physicians who replied to my letter, three did not answer this question; two stated that they gave no extra milk; thirteen advised giving a glass of milk with each meal; five advised six glasses daily; twelve, 1 quart daily, while one advised two quarts daily. It was evident that the majority of opinions were in favor of giving between three and four glasses of milk daily to tuberculous patients with and rarely between meals.

5. Do you lay down any definite law about what special foods should be emphasized? Twenty-eight of the thirty-six said no to this, simply advising the patient to eat three good, well balanced meals a day, while the remaining eight physicians had varying ideas on the subject, some stressing vegetables and fruits, some fatty foods, others carbohydrates or proteins. Many use diet as a means to check constipation or other intestinal disturbances, which is, of course, a natural and sensible thing to do. Dr. David Stewart urged patients to have the fewest possible food fads, while Dr. John Lloyd of Rochester, N. Y., advises a sufficient diet with a sufficient number of calories. A number of men stated that this question of special foods was purely an individual problem.

6. Do you give any special directions about the care of the bowels? Three of the thirty-six men did not answer this question; seven said no unequivocally; fourteen likewise yes unequivocally; four advised large amounts of roughage, and eight qualified their answer, stating that they aimed for the patient to have one movement of the bowels daily. The consensus was that constipation should be avoided and that the problem should be handled by a diet of fruit and vegetables, when possible, and that the majority of patients required help in the way of simple laxatives occasionally. My own feeling is that, when a patient is under nearly or absolute rest and is eating fairly well, a mild laxative once a week is a most valuable measure against constipation and against the clogging up of the intestine. I have found that this practice of giving a five-grain pill of cascara on a Saturday night is an excellent one to adhere to.

7. Do you advise drinking large amounts of water? Of the thirty-six answers to this question, nineteen stated that they did not give any special directions about this matter and did not have any opinion one way or the other; seven stated that they did advise large amounts of water; four a moderate amount of water, while six specified six glasses of water daily. Dr. Henry Sewall believes that water drinking is of extreme importance. Dr. Metzger advised the patient to drink more water than he had been accustomed to do as a usual thing. Dr. Edson was of the opinion that proper renal elimination was exceedingly important. Dr. Hugh Kinghorn advised a glass of water with meals and on retiring, while Dr. Browning of Los Angeles thought that many patients drank too much water. I am strongly of the opinion that the average adult, whether in normal health or whether suffering from tuberculosis, is distinctly better off by taking from six to eight glasses of water daily, scattered throughout the day, during and between meals. I am perfectly convinced from experience with patients, including myself, that this is a thoroughly good custom. Dr. Richard C. Cabot is equally emphatic that drinking large amounts of water does not do any good and on the whole does harm. The consensus, judging from the answers to this question, was that the drinking of five or six glasses of water daily was a very good thing.

8. Do you emphasize rest before and after each meal? Of the thirty-six replies, only two answered this question in the negative; twenty-nine wrote yes most emphatically; four said that they advised rest before and after meals occasionally, and one did not reply to this question. The majority of the men who said yes went into details, emphasizing the importance of this custom. Granted that rest is the basis of all treatment in tuberculosis and that proper feeding is next in importance, I think one might well accept the dictum that to approach and leave each meal in a rested condition is of extreme importance and value in the treatment of tuberculosis of all stages and varieties.

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SUMMARY AND CONCLUSIONS

Summarizing the opinions of these physicians, including myself, in regard to diet in tuberculosis, it is fair to conclude that:

1. Lunches between meals are rarely advisable. The average patient enjoys his food more and takes a larger amount of nourishment when he confines himself to three good meals daily than in any other way.

2. Eggnogs in any form at any time are, as Dr. Carroll Edson says, "an invention of the devil."

3. Raw eggs, if easily borne and if the patient is underweight, do not do any harm and may do good. They are not so digestible as cooked eggs and on the whole are rarely indicated.

4. About 1 quart of milk daily, four or five glasses, with meals, is the maximum amount that should be given. A glass of milk with each meal is usually sufficient.

5. There are no special foods that need be emphasized. Fruit and colored vegetables will help correct constipation; they contain vitamins but little if any nourishment. Potatoes, macaroni and rice contain much food value.

6. The bowels should act at least once daily. A mild laxative once a week is often a valuable help if a diet with plenty of roughage is not enough.

7. Five or six glasses of water daily with and between meals is advisable in every case.

8. A rest before and especially after each meal is essential. The dictum "Approach and leave each meal in a rested condition" is an extremely good one to stick to.

11 Marlborough Street.

YEAST AND IRRADIATED ERGOSTEROL IN THE TREATMENT OF ACRODYNIA *

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The prompt response to the use of yeast and irradiated ergosterol in a case of acrodynia recently seen at our clinic leads me to make the following case report.

REPORT OF CASE

A boy, aged 2 years, had been normal in growth and development up to 1 year of age; he sat up prior to 6 months, stood alone at 1 year and walked at 14 months; he had six teeth during the first year, the first at 8 months. He was breast fed for four months and then put on S. M. A. and certified raw milk; he had had orange juice at 6 weeks but no cod liver oil. At 1 year of age his weight was 24 pounds (10.9 Kg.). He then developed whooping cough and had a rather stormy time but without complications.

In September, 1928, six months after the whooping cough, a maculopapular eruption with some itching appeared on the body and within two weeks the edema and redness of the fingers and toes characteristic of acrodynia appeared. Associated with these symptoms were photophobia, loss of weight, profuse sweating, extreme irritability, nervousness and sleeplessness, all of which had been increasing in severity for six months before the patient was brought to the clinic, and all of which were present to a marked degree at the time of the examination. There had been an actual loss in weight from the end of the first to the end of the second year, and at the time of our examination there was a difference of from 8 to 10 pounds (4 to 5 Kg.) between the actual and the expected weight.

The child was pale, very nervous and irritable, and much underweight, with a temperature of 99.2 F. The tonsils were moderately infected; the anterior and posterior cervical glands and the axillary and inguinal glands were somewhat enlarged. The rib cage was flared; the lungs were clear; the heart was normal, and there was no distention of the abdomen. The fingers and toes were enlarged and reddened. The urine was very acid and ammoniacal, with a specific gravity of 1.011; one or two pus cells on the entire slide and two red cells to a field were seen; it was otherwise normal. The blood count showed red corpuscles, 4,950,000; hemoglobin, 78 per cent; white corpuscles, 17,700, with a differential count of 33 per cent neutrophils, 64 per cent lymphocyts, and 3 per cent transitionals. Stool examination was negative. The Wassermann reaction was negative.

Before being brought to us the child had been on a high caloric diet with particular attention to milk; cod liver oil had been given in large quantities, from five to six teaspoonfuls daily, but he was not receiving any sunshine. He had no appetite and refused to eat.

He was started at once on a diet that decreased the intake of milk to two glasses, or less than 1 pint, a day and increased the proteins to include two or three egg yolks and 1 ounce of lean meat; from 3 to 6 ounces of orange or tomato juice was given daily, with liberal quantities of green vegetables, cooked cereals, whole wheat bread and the lighter desserts. Half a yeast cake and 5 drops of irradiated ergosterol were given daily.

Almost immediate response was observed. Within ten days or two weeks the skin manifestations began to subside, the sweating ceased and the photophobia disappeared. The child began to gain weight and averaged approximately 12 ounces a week during the first two weeks. At the end of two months the skin had entirely cleared and there had been a gain of 3 pounds (1.4 Kg.). The glandular swelling is subsiding and the throat continues to look better with the general improvement of the patient.

Various theories as to the etiology of the disease have been brought forward. Rodda [1] and others consider that the source of infection lies in the upper respiratory tract and report success with the removal of tonsils and adenoids. Vipond [2] used a vaccine made from a gram-positive organism taken from the glands, with good results. Powell [3] believes that a specific organism not yet isolated or recognized is responsible. Helmick [4] considers acrodynia an allergy. Although most of these workers include a diet rich in vitamins in their course of treatment, they do not consider acrodynia primarily a deficiency disease as do some other workers and as our experience in this case has led us to believe.

The fact that this disease in its skin manifestations simulates pellagra to some extent induced us to try yeast in its treatment and because it was considered a deficiency disease of some type irradiated ergosterol was used also. We have found some reports in the literature in which yeast was mentioned as a part of the general course of treatment but only one in which yeast was used specifically. Rodda [1] obtained slow results from forced feeding with yeast, orange juice and cod liver oil without removal of adenoids and the tonsils and rapid results following tonsillectomy and adenoidectomy both with and without the forced feedings; Byfield [5] noticed "no influence on the course of the disease" by the "addition to the diet of the antineuritic vitamin (water-soluble B)." Zahorsky,[6] however, noted rapid improvement following the addition of yeast to the diet after six weeks of "ineffective treatment with quartz lamp and tonics."

Various observers, Craig [7] and Sweet [8] particularly, have reported success with the use of the quartz light. Ultraviolet therapy is a medium used in various vitamin deficiency diseases, especially in rickets, and the benefit derived from that type of therapy might be attributed to the supplying of the missing vitamins. In the case reported here the irradiated ergosterol may have supplied the same deficiency.

While the results of one case are not conclusive, the prompt response in this case to the use of yeast and irradiated ergosterol might indicate that the condition is a vitamin deficiency rather than an infectious process. That the vitamin deficiency following the malnutrition and dietetic disturbance present during the whooping cough caused the acrodynia would seem a more logical explanation than that the infection itself was responsible for the condition. The fact that the glandular enlargements are subsiding and the throat condition clearing under this treatment further leads us to believe that acrodynia is a vitamin deficiency disease.

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* From the Rees-Stealy Clinic.

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2. Vipond, A. E.: Acrodynia and Its Probable Causation, Arch. Pediat. **39:** 699 (Nov.) 1922.

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4. Helmick, A. G.: Symptomatology of Acrodynia as Basis for New Line of Investigation as to Its Etiology, Arch. Pediat. **44:** 405-410 (July) 1927; Acrodynia, Ohio State M. J. **24:** 123-126 (Feb.) 1928.

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6. Zahorsky, John: Pink Disease Treated with Yeast, Am. J. Dis. Child. **37:** 449 (Feb.) 1929.

7. Craig, R. A.: Acrodynia, Arch. Pediat. **44:** 581-585 (Sept.) 1927.

8. Sweet, G. B.: Acrodynia, Arch. Pediat. **43:** 543-549 (Aug.) 1925.

Clothing.—The selection of the proper clothing and shoes for the growing child is just as important and essential for the pediatrician or the mother as the selection of food, hours of sleep, recreation and general habits. The primary purpose of clothes is to maintain the body temperature at a constant degree, also to protect it from the heat, cold, sunlight, rain, mechanical injuries, dirt and insects. Often it serves the purpose of indicating the social scale of the individual, and may seem to regard the function of clothing solely as that of ornamentation.—Gray, A. H.: The Proper Clothing and Shoes for the Growing Child, *Northwest Med.*, July, 1929.

Clinical Notes, Suggestions and New Instruments

HEMOPERITONEUM FROM TRAUMATIC RUPTURE OF CORPUS LUTEUM

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Mrs. H. T., aged 28, twelve hours previous to her admission to the Evanston Hospital accidentally fell, striking the lower right quadrant of the abdomen against the arm of a chair. She did not experience any pain at the time but three hours later began to have abdominal distress. There was vague generalized pain, which was most marked over "the pit of the stomach." A few hours later she began to feel very faint and the pain became severe. When seen at 3 a. m. the abdomen was very tender throughout but especially in the right lower quadrant. There was slight rigidity. The urine was normal. The leukocyte count at 3 a. m. was 13,000 and at 5 a. m. was 19,000. A diagnosis of acute appendicitis was made and the patient was taken to the hospital.

At 7:30 a. m. (Dec. 27, 1928) the abdomen was opened through a muscle-splitting incision. About 500 cc. of fluid and clotted blood was found in the abdominal cavity. The appendix was normal. The incision was extended and a bleeding point was found on the right ovary at a ruptured corpus luteum. The bleeding was readily controlled by suture of the ovary. The appendix was removed. The postoperative course was uneventful.

Hemoperitoneum from spontaneous rupture of a corpus luteum is not uncommon, but the cases in which this rupture is definitely associated with trauma are exceedingly rare. Jaffe[1] reported a case of traumatic rupture of a malignant ovarian cyst in 1927, but a search of the literature of the last ten years reveals no similar case.

636 Church Street.

A CASE OF RESPIRATORY FAILURE SUCCESSFULLY TREATED IN THE DRINKER RESPIRATOR*

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In a recent article, Drinker and McKhann[1] described an apparatus for the prolonged administration of artificial respiration. They reported the case of an 8 year old girl suffering from acute anterior poliomyelitis with respiratory paralysis, who was kept alive for 122 hours. Death occurred as a result of cardiac failure. We submit a case treated successfully with the Drinker respirator.

REPORT OF CASE

A woman, aged 24, admitted to Bellevue Hospital at 3:30 p. m., May 19, 1929, had been in good health until three hours before admission, except for mild asthmatic attacks over a period of two years. The frequency of the attacks had been diminished after drainage of the left maxillary antrum. By taking three-fourths grain (50 mg.) of ephedrine twice a day she had been able to remain free from symptoms. On the morning of the day of admission she went to a closet containing many medicines and took what she thought to be 2 drachms (8 cc.) of the elixir of terpin hydrate and a solution containing one-half grain (0.03 Gm.) of codeine. She also took two three-fourths grain ephedrine capsules, all to relieve a tightness in her chest.

At 12:15 p. m., after a hearty dinner, she retired to her room feeling dizzy and slightly nauseated. Attention was directed to her room at 2:20 p. m. by a few stertorous respirations. She was found in a comatose condition. An ambulance was called and 10 grains (0.65 Gm.) of caffeine sodiobenzoate and 10 minims (0.6 cc.) of epinephrine (1:1,000) were given hypodermically. She was then rushed to Bellevue Hospital.

A brief examination at the time of admission revealed that the patient was well developed and well nourished. She was in deep coma, breathing three or four times to the minute in a shallow fashion. The lips, ears and nail beds were very cyanotic; her face was ashen gray, and her whole body was covered with a profuse perspiration. The pupils were small, about 1 mm. in diameter, and failed to react to light. Her eyes were fixed straight ahead. Her pulse was rapid (115) but of good quality. She was in a flaccid condition and she seemed moribund.

External heat was applied by means of hot blankets and hot water bottles. She was immediately placed in the Drinker respirator and the machine started at sixteen respirations a minute. The initial pressure was 20 cm. of water positive and 20 cm. of water negative. Immediately air was felt to pass in and out of her mouth. Within five minutes the emergency crew of the Consolidated Gas Company arrived and administered their carbon dioxide and oxygen mixture with the Atmos Inhalator. This was started at 7 per cent carbon dioxide and 93 per cent oxygen, but later was alternated with 5 per cent carbon dioxide and 95 per cent oxygen.

Within ten minutes there was a change in the intensity of the cyanosis. The respirations, which were forced to follow the machine, were increasing in depth. On looking through the porthole at the top of the respirator, one could see the patient's chest rise and fall in a normal manner with the alternate changes in pressure.

At 4 p. m. one-half hour after admission, the patient's cyanosis was much improved. Her pulse was of good quality at 140 a minute. Mucus collected in her throat and had to be removed by suction. The pupils were still constricted. The air pressure in the respirator was now reduced from 20 to 12 cm. of water.

At 6 p. m. the respirator was stopped for a few minutes and the patient was turned from the dorsal to the ventral position to allow the mucus to drain from her throat. She became very cyanotic at this time and both the blowers had to be started again for a period of two minutes, when her color improved and one blower could be resorted to. The pulse was 150 and of only fair quality. At 6:15 the machine was stopped long enough to permit 10 grains of caffeine sodiobenzoate to be given. Auscultation of the chest revealed a prolonged expiration and a few moist râles.

During the next four hours the patient's condition remained about the same. From time to time the respirator was stopped to see whether she could breathe with the inhalator alone. She would take only three or four breaths before she had to be aided by the respirator, as the depth of her breathing would be diminished and the apneic period between respirations would be prolonged. The respirations never failed to increase again when the respirator was turned on. Her pulse varied between 140 and 158. At 10 p. m. she was able to breathe for two minutes with the inhalator alone.

At 1 a. m. the patient raised her head. At 2:30 she opened her eyes and was able to swallow fluids. She now could breathe with the inhalator alone for a period of one-half hour while a hypodermoclysis of 1,000 cc. of saline solution was given into her back. The respirator was stopped at 3:30 for one and one-half hours, but the inhalator was continued. She could respond to questions in a stuporous fashion. The stretcher in the respirator was rolled out and a high hot colonic irrigation was given. At 5 a. m. her respirations became shallow and irregular, so that the respirator was started and continued for a period of twenty minutes. The depth and rhythm of her breathing responded immediately. At 8 a. m. the rubber collar was removed from her neck although she still remained on the stretcher of the respirator, ready for instant help should her breathing become at all irregular.

1. Jaffe, H.: Brit. Med. J. 2:549 (Sept. 24) 1927.

* From the Department of Medicine, Cornell University Medical College, and the Second Medical Division (Cornell), Bellevue Hospital.

1. Drinker, Philip; and McKhann, C. F.: Use of New Apparatus for the Prolonged Administration of Artificial Respiration, J. A. M. A. 92:1658 (May 18) 1929.

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On examination the next morning the patient was stuporous and sleepy. Her voice was hoarse and she had an occasional productive cough. The pharynx was red and injected, with five or six small areas of submucosal hemorrhages apparently caused by the suction apparatus when the mucus was withdrawn. There were scattered rhonchi and coarse râles throughout both sides of the chest. The pupils were 3 mm. in diameter and responded to light; the temperature was 100 F., and the pulse was 105; respirations were 18. The following day, May 21, the patient was much better. The cough and chest signs had disappeared. She felt "sore all over," particularly at the costal margin, where most of her weight had rested while in the prone position. The pupils were normal.

She was able to return to work one week later.

SUMMARY

The case reported here is that of a young woman poisoned by an unknown drug resembling morphine, who was near death from respiratory failure when she was placed in the Drinker respirator. The respirator forced her to breathe at a regular rate, caused her cyanosis to disappear, and prolonged her life until it was possible for her to breathe in a normal manner, after the poison had been eliminated. We found that we obtained the best results during the acute stages with a combination of the Drinker respirator and the inhalator.

UNDERWEIGHT AND OVERWEIGHT IN RELATION TO VITALITY

WILLIAM R. P. EMERSON, M.D., AND FRANK A. MANNY, PH.D., BOSTON

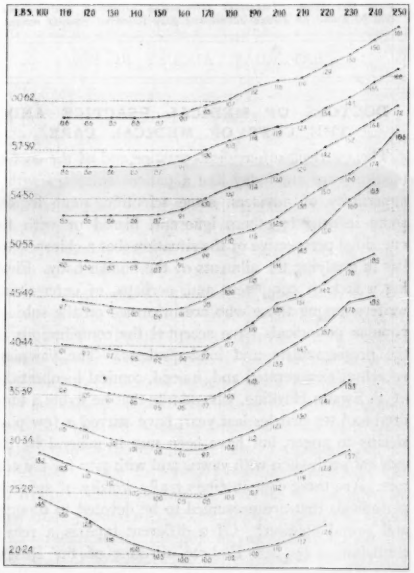
The results of the medico-actuarial studies of 1912[1] were so significant in their bearing on the effects of overweight in adult life that there has been a tendency to overlook the corresponding material which bears on the problem of underweight in the years at the close of the period of growth. We are presenting here in the accompanying chart the entire series from the ages of 20-24 to 60-62. Unfortunately, data are not at hand to extend the series down through the years of adolescence for males, but there is no reason to think that figures for this earlier period would fail to justify clinical experience, which shows even greater disadvantage in underweight from adolescents than for those in the early twenties. Moreover, there are no figures of significance showing mortality rates for females at any age, but there is little reason to believe that the mortality of women would show any different trend from that of men, and certainly during early years clinical observation of morbidity and physical fitness shows similar results for both the boy and the girl.

The word vitality in the title of this article is used in the sense of resistance to mortality. This work has been undertaken by us in connection with making and testing a table[2] which brings into a single series average weights for height from birth through the years of adult life. On this basis is given a range of optimum weight for height, determined clinically, within which the individual can find his best weight for well being and efficiency.

These tables show a close relationship between the lowest rates of mortality and the weights which are included within what we have called the optimum zone. More data are needed, but the chart given here indicates that in the early twenties mortality increases about one per cent for each pound below average weight for height. In the later twenties the disadvantage of underweight is three fourths of one per cent for each pound. In the thirties the mortality increase is from half to a third of one per cent for each pound. From the forties on weight below average, even as much as 30 pounds, may not be unfavorable.

The mortality increase above the range of the optimum zone amounts in the twenties to half or two thirds of one per cent, rising to one per cent or more in the forties and then showing a slight decrease in after years. The increase is greater in the range of weight above 20 per cent over average, which we have called the obese zone. In general, the weights in the upper range of the optimum zone fit better the needs of the twenties, while advantage lies with less weight for height as age advances.

In a recent study[3] by the United States Public Health Service, a report is made of the results of a series of strength tests given to 400 or more men, aged from 20 to 34. A comparison of the totals of deviations from average for pull, push, lift, hand grip and lung force for the various weight-height groups indicates that the men who were in what we call the danger zone (7 per cent or more below average weight for height) show an average on these tests of minus 43. Those lying in the borderline zone (between 7 per cent below and average weight) average minus 2. Those whose weights placed them in the safety-weight zone (average weight to 20 per cent above) average plus 37.



Influence of weight on mortality in men aged from 62 to 20: based on the medico-actuarial investigation of 1912. The figures on the curves represent the percentage of mortality for the respective ages and weights. In the early twenties, mortality increases about 1 per cent for each pound below average weight for height; above the age of 35, mortality increases about 1 per cent for each pound above optimum weight. Average height, 68½ inches; average weight, 144 pounds; optimum zone of weight, 151 to 166 pounds.

SUMMARY

Much attention has already been given to the danger of overweight in the forties and later years. The publication here of the entire age series of mortality rates in relation to weight for height, makes available evidence concerning the underweight aspects of this problem.

A comparison of the ranges of optimum weight for various heights determined on a clinical basis shows a striking agreement with the mortality-weight relationships. A similar confirmation of the optimum and safety-weights is found in their close relationship to the results of five series of strength tests.

270 Commonwealth Avenue.

1. Report of the Medico-Actuarial Investigation of 1912 for the period 1885-1908, volume 2.

2. Emerson, W. R. P., and Manny, F. A.: Weight-Height Tables, Boston, Nutrition Clinics, Inc.

3. Studies in Physical Development and Posture, Pub. Health Bull. 179, 1928, pp. 122-123.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, AUGUST 10, 1929

DOCTORS OF MEDICAL PRACTICE AND THE COST OF MEDICAL CARE

The problems of medical practice and of the cost of medical care are today like a patient suffering with a superfluity of advisers, some scientific, some logical, some informed; others ignorant, biased or with the one sided perspective of the situation that a chiropractor has in studying the ailments of the human body. Finding a lack of competent and, perhaps, of entertaining writers among those who are informed on the subject, popular periodicals have accepted the contributions of the propagandists and loud-speakers. The yawping, sneering, exaggerated and, indeed, comical lucubrations of T. Swann Harding, who admits that he wrote a hundred and ten articles last year, have stirred a few physicians to anger, but have been met in general by the medical profession with yawns and with pity for the editors. Are these contributions really worthy of space in periodicals that are presumed to be devoted to thought and sound opinion? Of a different type is a recent contribution by Mr. Embree, director of the Rosenwald Foundation. It appears in full in the New York *Times* and in brief in the *Modern Hospital*. After all, the medical profession might have anticipated from Mr. Embree something serious in the way of investigation and data rather than sarcasm, half-baked opinions, and sops to the multitude. In his contributions are accumulated most of the invective that has appeared in the wild statements of sensation-mongering publicists in the last five years.

Mr. Embree begins with the assertion that vociferous elements of county medical societies act as though medical service were something that belongs to the doctor and he emphasizes that the patient is equally concerned in the illness. Leaders of medicine have always urged that the patient's interest is paramount. Mr. Embree knows that. But he should realize also that the responsibility for the patient, legal and in every other way, is the responsibility of the physician. Even if the Rosenwald Foundation, the Public Health Institute, the Cornell Clinic or the Mayo Clinic engages in medical practice, the responsibility for the patient is the responsibility of the doctor or of the doctors who attend him. Mr. Embree, when he gets sick, wants a doctor to be responsible for getting him well. That personal relationship is not to be avoided by any species of inspired reasoning. The pity is that the public should be made to feel that the organizers and the executive secretaries have worked out, or are going to work out, some other system. No matter what system of practice eventually develops in our fair land, doctors are going to do the practicing and carry the responsibility.

Mr. Embree repeats the charge that the public has furnished the hospitals, medical schools and laboratories to the medical profession as a place in which they may work, and that therefore, presumably, the doctors owe a great debt in return. The fact is that doctors make the institutions that have been mentioned. Without physicians and medical investigators such institutions as the great Rockefeller Institute, the university hospitals, the leading medical schools, would be only four walls and a lot of apparatus. These institutions have been made by the physicians who have for more than a century taught without remuneration, taken care of the poor without remuneration, lectured and written without remuneration, given themselves to mankind. An obligation, Mr. Embree should realize, also has rested and always will rest on the side of the public. Pray that this mutual obligation may continue. Let the medical profession always be a profession of service. On the day when the economists, the merchants, the brokers and bankers and the executive secretaries put medicine on a business basis the heart will go out of it and the people, unless they too have degenerated into robots, will suffer sadly.

A few years ago Mr. Hugh Fullerton, noted writer on baseball statistics, contributed to *Liberty* a ringing attack on the Oath of Hippocrates, asserting that the medical profession was controlled by this code. He had apparently never heard of the Principles of Ethics of the American Medical Association, adopted almost a hundred years ago and revised at frequent intervals to meet changing conditions of human life. From Mr. Fullerton this was understandable. He was more concerned with base-stealing than with exploitation of patients. But surely Mr. Embree has heard of the Principles of Ethics. He is not quite fair when he attacks the Oath of Hippocrates and intimates that physicians are considering as inviolable a code adopted in a previous age. Of course there are some things that disturb Mr. Embree particularly. The economists and executive secretaries for the large foundations believe that better distribution of medical care will be had if medical institutions can advertise their wares to the public. The medical profession has always opposed advertising as bringing far more evils than benefits into medical practice. Mr. Embree seems to think that the Public Health Institute, its

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methods and results are good models for medical practice to follow in the future. Indeed, he makes a case for it in both of his articles. He feels that THE JOURNAL should not have asserted any venality on the part of the press in relationship to medical advertising. He does not mention THE JOURNAL but he says: "Certain medical journals have accused newspapers of taking an interest in the public aspects of medical service because of the hope of getting paid advertising that might result from a policy of public announcement. This seems cheap and utterly unjustified abuse." Perhaps the executive secretary of a philanthropy can afford to be naive; but there are times when naïveté becomes pitiful. Thus Mr. Embree asserts that if newspapers were governed solely by commercial interests they could get a hundred thousand dollars from quacks for every thousand dollars spent by physicians. Surely he knows that newspapers do not carry nostrum advertising because it is bad business to carry nostrum advertising. True, the press is developing a series of ethical principles. But the law and public opinion and the advertisers of honest goods forced the disappearance of nostrum advertising. There is, indeed, a woful tendency on the part of much of the press to relapse whenever the slightest occasion offers. Even that portion which Mr. Embree particularly defends has carried during recent years and continues to carry the announcements of "Konjola" and of "Lesser Slim," in addition to those of the Public Health Institute.

Repeatedly in his articles Mr. Embree is gratuitously sarcastic. One can hope only that it is because he is uninformed rather than malicious. Thus he says to the world at large through the *Times* and to the superintendents of hospitals in the *Modern Hospital*, the commercial organ which dominates the hospital field, a field which has not, like medicine, a real independent voice of its own:

> Because of the distinguished position of William and Charles Mayo and their associates, even the bitterest critics of organization in medicine have found it convenient to omit this clinic from their attacks on such services.

It is of course for the brothers Mayo to inform Mr. Embree wherein he errs. No doubt he was absent in China during the development of the Clinic. With the cooperation of the medical profession, this organization is kept in accord with what experience has shown to be proper. Today the institution is a part of a great university turned over to that type of organization by the physicians who built it. It was after repeated meetings with the state medical society of Minnesota and with representatives of the medical profession that the arrangement by which the Mayo Clinic operates was finally worked out.

Neither time nor space permits a complete analysis of Mr. Embree's communication. After all, would it be worth while? Through it there runs the sentiment that medicine must be organized, that it must be put on a business basis. If the Rosenwald Foundation is entering the field of medical care with this as its fundamental consideration, its plans may well die aborning. At the very time when Mr. Embree launches his diatribe one finds Lord Dawson of Penn, among the most noted of British leaders in medicine, speaking thus to the prize men of the London Hospital, as they prepare to enter medical practice:

> It is to the field of general practice that we need to pay attention, for it would be a sorry day for any country were general practitioners to become weak in their work or their influence. This is now a danger in certain countries of the world. . . .
>
> It is said that the problem of general practice, in its relation to hospital provision and the problem of how to treat patients of limited means, has been solved in Germany and the United States. I tell you that it has not been solved anywhere.

Has Mr. Embree any solution to offer in the problem of providing medical care to all the people at a price that they can afford to pay? If he has, it does not appear in any of his contributions on the subject. He merely says repeatedly that medicine must be organized. Has he a plan of organization that would certainly accomplish the result? He has not! Indeed, in his desire to satisfy the interests that employ him he rushes about hither and thither listening to this scheme and to that, beckoned by this organization and by that, trying to find the answer in a group, in a university hospital, in a Public Health Institute, in a hospital center, in Mr. Filene's medical guild, in anything that will seem to offer some solution to the problem. In all this he fails to realize one essential that the philanthropists and the social workers and the economists must realize: the rise in the cost of medical care is a reflection of the increased knowledge that has come to the practice of medicine. The bill of the physician is a small portion of this cost. The x-rays, the laboratory investigations, nursing service, hospital care, and the work of specialists are new factors in medical care. Even with the most perfect organizations, they will still be costly. And if organization and slightly lower costs are achieved at the risk of disturbing the personal relationship between physician and patient in such a way as to mechanize medical practice, the gain will be found a futile one. The patients themselves will never be satisfied.

It is a pity that Mr. Embree permitted himself to be urged to talk before he was ready. Most physicians and most economists and most social workers are willing to wait until the Committee on the Cost of Medical Care, a group with which the medical profession is cooperating whole heartedly, has brought into the situation data on which to base reasonable action for the future. Nothing is to be gained by inciting the thoughtless and the uninformed into peevishness against the medical profession. The great foundations that are entering into the problems of medical care must themselves have medical cooperation in carrying out their

plans to the best advantage. They cannot succeed without it. Mr. Embree seems to have the same conception of cooperation that Mr. Kingsley so aptly characterized a few years ago. "You coo," says Mr. Embree, "and I'll operate."

INCREASING HAZARDS FROM POISONOUS GASES

The hazards of poisonous gases are not confined to war. Numerous fatalities occur from carbon monoxide in illuminating gas and in automobile exhaust gas. Such occurrences as the Cleveland Clinic disaster, in which the gas was chiefly the oxides of nitrogen, and more recently the fatalities from methyl chloride escaping from automatic refrigerators are not to be lightly dismissed. Various agencies of the government, such as the United States Bureau of Mines and the United States Public Health Service, and the Committee on Investigation of Toxic Gases of the American Medical Association have a serious problem before them.

In 1927 Drs. Henderson and Haggard of Yale University issued a monograph on poisonous gases and the treatment of such poisoning.[1] Under the group of "more toxic anesthetics," methyl chloride is described thus (page 159):

> The monohalogen compounds of methyl, CH_3Br, CH_3I and CH_3Cl, are reactive gases, for after absorption they are decomposed into methanol (methyl alcohol), which is nearly nonreactive, and the halogen acid. The acid then combines with the sodium of the blood to form sodium chloride, bromide or iodide. The marked accumulative property of methanol and its destructive action upon the nervous system render these three methyl halides particularly poisonous. They do not themselves accumulate in the body and reach an equilibrium preventing further absorption, as in the case of nonreactive gases, but are decomposed with the production of methanol. Consequently methanol continues to accumulate in the body as long as the exposure persists. Thus severe poisoning by methanol results after prolonged exposure to concentrations of a methyl monohalide too small to exhibit the anesthetic action of the undecomposed substance. The symptoms are those of methanol poisoning. Their development may be slow and recovery delayed; there is usually intense excitement and even epileptiform convulsions. Gastric and intestinal disturbance, vomiting, diarrhea and pain may also occur.
>
> The methyl monohalides are used in the chemical industry for the preparation of various methyl compounds. Methyl chloride is also used as a refrigerant; when employed for this purpose in dwelling houses, leaks may have fatal consequences.

Recent events in Chicago have fully confirmed the last statement. The warning published two years ago went unheeded and, as shown in the manuscript by Kegel, McNally and Pope,[2] deaths have followed. No one knows the extent of the morbidity.

Sulphur dioxide is a gas of a different toxicologic type from methyl chloride. It is classed under "irritant gases," along with chlorine, phosgene and other war gases. The least detectable odor is from 3 to 5 parts per million of air; 8 to 20 parts are extremely irritating to eyes and throat; and 400 to 500 parts are dangerous even for short exposure. This gas is further described by Henderson and Haggard (page 130):

> Sulphur dioxide is a colorless gas with a specific gravity of 2.23. It arises from the combustion of sulphur. It occurs in the gases issuing from volcanoes and is constantly discharged into the air of cities by the burning of coal containing sulphur. . . . Sulphur dioxide under pressure in the liquefied state is used as a refrigerant in ice machines, usually on a small scale. It is also used as a fumigant and bleach. . . . It is the main irritant (but not for men and animals the chief toxic substance, which is carbon monoxide) among the gases produced by the burning of coal. It is the constituent of coal smoke which is particularly injurious to vegetation. . . . Acute poisoning from inhaling sulphur dioxide is rare, for it is so irritating to the eyes and throat that lethal concentrations are almost irrespirable. In contact with the moist surface of the respiratory tract and conjunctiva, sulphur dioxide is converted to sulphuric acid. The action of sulphur dioxide is limited to the irritation of surface tissues, for the sulphates arising as its neutralization product are not toxic.
>
> Although the action of sulphur dioxide is mainly in the upper respiratory tracts, severe exposure causes inflammation of the bronchi and occasionally edema of the lungs.

The significant fact here is that lethal concentrations are irrespirable. It may be that methyl chloride is less toxic than sulphur dioxide, but under the conditions of use in daily life it is far more dangerous.

In the Cleveland Clinic disastrous explosion "nitrous fumes" were involved. Nitrogen dioxide, NO_2, is a dense, reddish brown gas. When nitric acid acts on organic material, particularly when the acid is spilled during its storage or shipment, nitric oxide is evolved, which quickly takes up oxygen from the air, forming nitrogen dioxide or its polymer, nitrogen tetroxide. The nitric acid attacks wooden floors, refuse or any organic material in its path, with evolution of the red fumes. Nitric acid is also decomposed into the dioxide by heat even in the absence of organic material. Numerous organic substances containing the "nitro" radical give off nitrogen dioxide when burned. Celluloid and related products, gun cotton and dynamite are examples of this class of material.

Nitrogen dioxide or nitrogen tetroxide fumes, it should be emphasized, are the most insidious of all irritant gases. "After the burning or incomplete explosion of dynamite in a tunnel, or the spilling of nitric acid on a wooden floor, or some similar slight mishap," say Henderson and Haggard, "a workman inhales some of the fumes for a time, but is little inconvenienced. He goes home and eats his supper feeling perfectly well. During the night edema of the lungs develops and before noon, or even before morning he is dead, drowned in the volume of fluid poured out in his lungs." The last statement was illustrated gruesomely in the cases at Cleveland.

For poisoning by all gases other than the irritants, the treatment which experience has established as most effective is essentially the same as that which has been widely introduced for carbon monoxide asphyxia. It includes inhalation of oxygen plus 5 per cent carbon dioxide. The latter serves the important function of

1. Henderson, Yandell; and Haggard, H. W.: Noxious Gases, American Chemical Society Monograph Series, New York, 1927.
2. Kegel, A. H.; McNally, W. D., and Pope, A. S.: Methyl Chloride Poisoning from Domestic Refrigerators, J. A. M. A. **93**: 353 (Aug. 3) 1929.

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stimulating respiration so that such foreign gases as carbon monoxide, gasoline, ethyl chloride, methyl alcohol and ethyl alcohol are rapidly eliminated through the lungs.

In the treatment of the effects of irritant gases, such as sulphur dioxide, chlorine, bromine and nitrogen dioxide, it must be remembered that medical measures contribute little to the relief of pulmonary edema. In some cases benefit may be derived from the intravenous administration of saline solution; and this infusion may be combined with the withdrawal of blood, when the venous congestion is intense. Inhalation of oxygen tends to relieve the anoxemia and cyanosis and should always be begun as early as possible in the stage of gray cyanosis. "For the inhalation to be effective," say Henderson and Haggard, "an efficient inhalator and a close and comfortably fitted mask must be used. With such an inhalator it is best not to administer pure oxygen but a mixture of oxygen and air [without carbon dioxide] just sufficiently rich to counteract the cyanosis. By far the most important feature of treatment in such cases is absolute quiet and rest. Neglect of this requirement is common and frequently precipitates death by sudden heart failure."

In modern life new customs, new machineries, new tastes develop with startling rapidity. Manufacturers promote and our people use new products with amazing avidity and with utter disregard for hazards to health and life. The public has learned to depend on authorities for the responsibility for its health and safety. Only too often the thing we call progress moves on before authority can investigate or grant assurance. Apparently catastrophe and death alone can make mankind even hesitate in its headlong pace.

SUNSHINE AND CLOTHING

In recent years much of the accepted efficacy of solar irradiation for the promotion of health has been attributed, as the result of careful scientific investigations, to the ultraviolet components of the sunlight. These rays, which represent only a small part of the energy involved, not only are singularly potent but also may be readily obliterated by various interposing mediums. They fail almost completely to penetrate ordinary window glass, through which ordinary light rays pass readily. Skyshine may contribute a considerable part of the desired effects of heliotherapy.[1] This is demonstrably true with respect to antirachitic potency.[2] It has become evident that in order to get maximal results from heliotherapy one must be assured that direct solar radiations, as well as those which are indirect or diffuse, are being received and that it is not necessary to discard all solarization because direct sunshine is not available. Leonard Hill[3] has listed, as causes for variation in the amount of the ultraviolet component of sunlight, the source, whether skyshine or sunshine; the time of day; the time of year; the pollution of the air; the geographic location, and the altitude.

In view of this it has become imperative to secure dependable information about the actual conditions that exist in the different parts of the world and even in individual communities. Surveys as to the quantity and quality of sunlight freely available have already been reported from many regions. Some of them are reviewed in a recent contribution of Manville[4] of the University of Oregon Medical School. They call attention again to the extent to which smoke pollution and fog may obstruct the ultraviolet rays. According to Manville, Portland, Ore., as a representative locality of the Northwest, has the lowest annual average of sunshine of all areas in the United States. Michigan, Maine, Vermont, New York and the Ohio Valley receive almost as low a percentage. After April, when one expects clearer skies, the amount of smoke in the air in some parts of the Northwest increases. Farmers, homesteaders and others select this time of the year, as well as the fall after the first rains, to burn their slashings. During the summer months the amount of smoke in the air steadily increases and is due for the most part to forest fires. Hence the pall of smoke hanging over the Northwest during the late spring, summer and early fall is considered more of a menace than a nuisance.

To meet these situations, various "substitutes" for sunshine—notably artificial irradiation and irradiated foods—have been proposed. Manville has reminded us, however, that modification of dress embodying the hygiene of clothing is worthy of consideration. He states that the relative mildness of the climate in the Northwest should permit of greater freedom in the style of dress. Man has not yet compensated for the deficiency of ultraviolet radiation in the temperate zone; in order to prevent undue losses of heat he has clothed himself in such a manner that a poor condition is made worse. However much has been said against the modern styles in women's dress, Manville believes it must be admitted that they allow much more exposure of the skin to the beneficial action of the sun and air than is permitted by the prevailing modes for men. It has been shown that certain fabrics possess the power of greater transmissibility to ultraviolet radiations than others. It would therefore seem that a more intelligent adjustment to styles and choice of fabrics would have considerable influence in alleviating the condition of shortage of ultraviolet rays. Reformation of dress in the interest of better solar irradiation has begun to attract attention. A vogue for "sun suits" for children is being created. The special needs of different

1. Sunshine, Skyshine and Rickets, editorial, J. A. M. A. **90**: 118 (Jan. 14) 1928.
2. Tisdall, F. F., and Brown, Alan: Antirachitic Effect of Skyshine, Am. J. Dis. Child. **34**: 737 (Nov.) 1927.
3. Hill, Leonard: Proc. Roy. Soc. London **102**: 119 (Nov.) 1927.
4. Manville, I. A.: The Ultraviolet Component of the Sunlight of Portland, Ore., Am. J. Dis. Child. **37**: 973 (May) 1929.

localities, notably as they are affected by environmental temperature, call for discriminating recommendations. Dress reform may well proceed, in part at least, on the basis of the physiologic needs of those who wear the clothing.

Current Comment

PELLAGRA IN OHIO

Through the years that Goldberger was engaged in research on pellagra, he made frequent trips to Milledgeville, Ga., and other Southern communities to study pellagrins in their native environment. These investigations and others have in part created the erroneous opinion that pellagra is confined to the Southern states. Goldberger believed and, it would seem, finally demonstrated that pellagra is the result of a restricted diet. It can occur, therefore, wherever dietary habits or economic factors prevent people from obtaining certain essential food elements. Last year pellagra caused the death of twenty-one persons in Ohio, and the year before of sixteen.[1] It has been recognized in other Northern and Western states. Practitioners who are not familiar with varied manifestations of this disease may fail to recognize them or to recognize the disorder because they do not anticipate its appearance in Northern states.

MENINGITIS SITUATION ON THE PACIFIC COAST

THE JOURNAL[2] has called attention to the increased prevalence of epidemic cerebrospinal fever on the Pacific Coast, specifically stressing the appearance of this disease among Filipino steerage passengers on ships of one company arriving in Seattle and San Francisco from oriental ports. Apparently, the measures advocated by health officials, and presumably adopted by the American shipping company concerned, have been efficacious; all ships have arrived "clean" since sailing from Manila as far back as May 11. Information is available, moreover, that the epidemic that had been prevailing in Shanghai passed its peak in April. The declining epidemic incidence in Shanghai, which port is touched by these ships, and the prevention of contact of evidently highly susceptible Filipino steerage passengers with possible cases and carriers in Shanghai, may be of significance in the light of the absence of recent cases on shipboard. The oriental epidemic may be subsiding only until winter. Taking cognizance of the epidemic, President Hoover issued an executive order, June 21. Subsequently additional regulations were promulgated by the United States Public Health Service, made effective in July. These regulations go as far back as the Navigation Act of 1882 and drastically reduce the present steerage capacity 75 per cent, basing it on cubic feet space rather than on certain ventilation requirements. Whether this can be made to apply to shipping companies other than American, thereby establishing equal competition and equal curbing of Filipino immigration, will probably be an argumentative point. The presidential order calls attention to the overtaxing of available quarantine facilities in ports. In this connection THE JOURNAL would earnestly urge these much needed appropriations by Congress, particularly in Seattle and San Francisco. The apparent clearance of the epidemic of this disease on ships antedating the present regulations must make it exceedingly difficult for the shipping company involved, particularly because of the drastic cut in steerage capacity, to grasp the public health significance of the action taken. The whole situation with reference to meningitis shows the urgent need of prompt exchange of epidemiologic information throughout the world for diseases transmissible by means of ships and on the other faster near-future commercial means of transport, the airplane. Unfortunately, quarantine measures do not generally keep pace with rapidly changing methods of transportation or even with available scientific information.

1. Public Health Notes, Ohio State M. J. **25**: 585 (July) 1929.
2. Meningitis Situation on the Pacific Coast, editorial, J. A. M. A. **92**: 2022 (June 15) 1929.

NEWER ASPECTS OF LEPROSY

Of all the medical problems that have intrigued scientific investigators, leprosy has offered aspects that have been most baffling. Walker,[1] of the George Williams Hooper Foundation for Medical Research of the University of California, as the result of exhaustive tests, has published data which, if substantiated, will clear up some of these. Thus, it has apparently been determined that the lepra bacterium has pleomorphic as well as acid-fast characteristics. Moreover, Walker contends that many bacterial types, such as coccoid, diphtheroid and actinomycoid, that are susceptible of being cultivated from cases of leprosy, are different stages in the life cycle of the organism. Furthermore, the etiologic relation of Hansen's bacterium to leprosy is stated to be probably the tissue or dead stage of the variable types and variously shaped organisms that have been mentioned. The absence of experimental production of the disease in animals with such isolated bacteria is admittedly a weak point. One cannot help but appreciate, however, that this is not an unreasonable explanation of a long known enigma. One of the accepted and practiced control measures has been segregation. The public health official has generally recognized that segregation will not actually control the disease. Walker fully discusses this point, along with the increased prevalence of the disease in rural communities. He attempts to prove, indeed, that the so-called actinomyces of leprosy is a soil organism and therefore that leprosy is a soil infection. Contagious dissemination cannot be entirely excluded. The medieval and biblical ideas as to extreme or great contagiousness of leprosy by contact, some of which still exist, may in the light of this experimental evidence be forgotten. Indeed, one may well question whether our present-day methods of control are as thorough as we now believe. The evidently prolonged incubation, the possible latency and probable presence of deep-seated lesions, along with the technical bacteriologic difficulties incidental to this disease, may suggest that the criterion of cure is still clinical.

1. Walker, E. L.: Some New Aspects of the Etiology and Endemiology of Leprosy, J. Prev. Med. **3**: 167 (May) 1929.

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Association News

MEDICAL BROADCAST FOR THE WEEK

The American Medical Association Morning Health Talks and Evening Health Hints from Hygeia

The American Medical Association broadcasts daily at 11:15 Chicago daylight saving time, over Station WBBM (770 kilocycles, or 389.4 meters).

The program for the week of August 12-17 is as follows:

August 12. "Testimony," by Dr. R. G. Leland.
August 13. "Underwear and Health," by Dr. R. G. Leland.
August 14. "The Scientist in Public Health," by Dr. R. G. Leland.
August 15. "The Senses in Science, Part II," by Dr. R. G. Leland.
August 16. "Traffic Accidents," by Dr. R. G. Leland.
August 17. "The Kalaw of Burma," by Dr. R. G. Leland.

Evening Health Hints from Hygeia, 8 o'Clock, Chicago Daylight Saving Time

August 12. Sanitary Engineering Makes Travel Safe.
August 13. Lack of Sleep May End Fatally.
August 14. Beauty Problems.
August 15. Spinach Meets Dietary Tests.
August 16. The Parents' Part in School Health.
August 17. The Work of the Heart.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ARKANSAS

Governor Appoints Basic Science Board. — The recent legislature having passed a basic science bill, Governor Parnell has announced the following appointments to constitute the first basic science board: for two years, E. L. Whitsett, dean, First District Agricultural and Mechanical College, Jonesboro; S. C. Dellinger, professor of zoology, University of Arkansas, Fayetteville, for three years; M. J. McHenry, instructor in chemistry, Hendrix College, Conway, for four years; D. A. Spessard, instructor in science at Ouachita College, Arkadelphia, for five years; Louis E. Gebauer, a bacteriologist, Little Rock, for six years (THE JOURNAL, April 27, 1929, p. 1448).

Society News.—The Benton County Medical Society was addressed, June 13, by Dr. Robert C. Davis on "Diagnosis of Goiter Heart" and by Drs. Ferdinand C. Helwig and Harold P. Kuhn, all of Kansas City, on "Correlation of the Clinical Symptoms with Pathologic Findings and Examination of Specimens." At the banquet, Dr. Edward H. Skinner, Kansas City, spoke on "The Acceptance of Medical Progress of the Laity."——The Independence County Medical Society, Batesville, was addressed, June 10, by Dr. Van D. McAdams, Cord, on "Puerperal Eclampsia."——At the annual meeting of the Arkansas Medical Society, a set of silver was presented to Dr. Frank Vinsonhaler, Little Rock, in appreciation of his service in the passage of a basic science bill.

Hospital Company Solicits Patients.—The council of the Arkansas Medical Society, in May, considered a complaint against Drs. Arthur M. Smith, John J. Smith and John F. Smith of Paris, of Logan County, in which they were charged with working for and being interested in the People's Hospital Company, which operates hospitals in Paris and in Fort Smith, and which maintained solicitors for patients. The hospital company, the complaint read, executed contracts with persons in which the company agreed to supply medical service. Solicitors went from house to house, plant to plant, and mine to mine, soliciting contracts, and on these agreements were the names of the three physicians. Dr. John F. Smith appeared before the council and stated that he and his father and uncle, Drs. Arthur M. and John J. Smith, were employed by the People's Hospital Company on a strictly fee basis to render medical service for patients brought to the Colonial Hospital in Fort Smith, and were employed by the People's Hospital Association for similar service at the Paris Hospital; that they owned and operated these hospitals but were not in any way interested in either the People's Hospital Company at Fort Smith or the People's Hospital Association at Paris. The council voted to present to the house of delegates a recommendation that the charter of the Logan County Medical Society be revoked for ethical reasons.

CALIFORNIA

Patients Escape from New Hospital.—The state narcotic hospital, established about a year ago at Spadra, was the scene of a disturbance among the patients, August 5, in which they battered down doors and windows. No one was injured. Thirteen of them are reported to have escaped.

Certificates Lost.—The secretary of the state board of medical examiners, Dr. Charles B. Pinkham, writes that California validation certificates S-1422 to S-1471 have been lost in the mails in transit to the validating officer in Los Angeles. Medical colleges, state boards and others should give no credence to any of these certificates unless notified.

Outbreak of Mussel Poisoning. — The state board of health placed all mussels in every coast county between Monterey and Del Norte under quarantine, July 22, following the report of several cases of poisoning at Bolinas in Marin County. Five persons became ill following a party in which mussels were eaten (THE JOURNAL, February 11, 1928, p. 467; July 21, 1928, p. 177; Dec. 29, 1928, p. 2070).

Personal. — Dr. Thomas O. Luckett has been appointed health officer of El Centro to succeed Dr. Floyd A. Burger.——Dr. Donald Smith has resigned as superintendent of the Mendocino State Hospital, Talmage, and Dr. Charles Sisson has been appointed to succeed him.——Dr. Ernest M. Hall, Los Angeles, has been appointed professor of pathology and bacteriology at the University of Southern California School of Medicine.

A New "Path." — The secretary of the California State Board of Medical Examiners received an inquiry about the requirements for license to practice in California, through the Los Angeles Chamber of Commerce, from a "doctor" in Montgomery, Ala., said to be an "angiopath." The secretary replied to the chamber that he had a list of about thirty-five drugless "pathies," but that he was at a loss to know what an angiopath may be. California has a separate board of chiropractic examiners. Christian science practitioners are exempt from the provisions of the California medical practice act as long as they concern themselves with the practice of religion and do not lay hands on patients or use diagnostic instruments or medicines, or in any way violate the law.

Society News.—The California Tuberculosis Association gave a course limited to twenty-five physicians for the study of tuberculosis under the direction of Dr. Allen K. Krause, associate of medicine, Johns Hopkins University School of Medicine, Baltimore, July 15-26. The fee was $25.——Dr. Roscoe N. Gray of the Aetna Life Insurance Company of San Francisco addressed the Sacramento Society for Medical Improvement, recently, on "Pitfalls of the Doctor—Cause and Prevention of Malpractice Suits."——Among others, Dr. Alfred R. Roos, Loma Linda, addressed the San Bernardino County Medical Society, recently, on "Various Aspects of Allergy in Southern California."——Thirty-two steerage passengers were refused passage on the liner *President Taft* at Manila, July 13, on account of the new meningitis regulations of the U. S. Public Health Service. Six of them were carriers of meningitis and five were cholera suspects.——The San Francisco County Medical Society will be addressed, August 13, by Drs. Arthur Carol McKenney, Jr., on cardiospasm, and Gunther W. Nagel on "The Surgical Treatment of Cardiospasm." The section on medicine was addressed, August 6, by Dr. Alfred C. Reed on "Cairo, Bagdad and the Orient Medically" (illustrated). The section on surgery will be addressed, August 20, by Dr. Daniel W. Sooy on treatment of empyema of the pleural cavity; Dr. LeRoy Brooks will present moving pictures of blood transfusion.

DELAWARE

Official Report on Mortality Rate.—The U. S. Department of Commerce announces that the death rate for Delaware for 1928 was 1,309.8 per hundred thousand of population as compared with 1,237.4 in 1927. The increase was due chiefly to heart disease, pneumonia, measles, scarlet fever, typhoid and influenza. The death rate from accidents increased slightly because of accidental drownings, falls and automobile accidents. The rates decreased during 1928 for tuberculosis, nephritis, bronchitis, diabetes mellitus and railroad accidents.

GEORGIA

Bills Introduced.—S. B. 179 proposes that a physician and a surgeon shall not be competent in any civil case to testify, without the consent of the patient, as to communications made to him by his patient during the existence of that relationship. S. B. 194 and H. B. 600 propose to repeal the state workmen's compensation act. H. B. 476 proposes to repeal the law providing for a board of public welfare. S. B. 212 and H. B. 624 propose to amend the workmen's compensation act by providing that the provisions of the act shall be construed to apply only to an injury or death as a result of an accident in which a recovery for such injury or death cannot be had at law from the employer. H. B. 635 proposes to repeal the Georgia workmen's compensation act. H. B. 643 proposes to require all applicants for a license to practice any branch of the healing art to be examined in the basic sciences by an impartial board, as a prerequisite to an examination by respective professional boards. The bill defines the basic sciences as anatomy, physiology, chemistry, bacteriology and hygiene. H. B. 670 proposes to make it a misdemeanor for any one to cook or serve food in any public eating place when such person is infected with any contagious disease. H. B. 672 amends the law authorizing county boards of health by providing that rules and regulations established by such boards shall apply to incorporated cities and towns in the county.

ILLINOIS

Hospital News.—Mrs. Dellora Angell Norris has given $100,000 to the city of St. Charles for the construction of a community hospital.——The new St. Therese Hospital in Waukegan, costing about $1,250,000 and containing 250 beds, has been dedicated.

Health at the Fair.—A feature of the state fair at Springfield, August 17-24, will be the health exhibit on the second floor of the exhibition building. Forty booths will be devoted to exhibits, a theater showing health films, headquarters for the better baby conference, in which about 1,000 have been registered, and a new exhibit on diphtheria prevention and industrial hygiene. The state fair school of health instruction, which will be conducted each morning, has about 100 students registered.

Cancer Rate Did Not Rise Last Year.—From 1918 until 1928 the cancer death rate of Illinois rose from 2 to 4 per cent each year, the total increase having been about 30 per cent, or from 82 per hundred thousand of population to 106. The number of deaths reported as due to cancer in Illinois in 1928 was 7,887. The state health department, in studying these reports, says that cancer among fat persons is higher than among underweight people or persons of normal weight. The stomach was the seat of cancer more than twice as often as any other organ.

Chicago

Medical Regiment in Camp.—The one hundred and eighth medical regiment attached to the thirty-third division left for the annual encampment at Camp Grant, August 3. The regiment has two ambulance companies, a hospital company, a service company, the division surgeon's staff, and regimental headquarters. Col. James J. McKinley is in command. Its medical officers are members of the Chicago Medical Society. Reserve officers were attached to the regiment for training during the encampment.

Personal.—Dr. Herman M. Adler, state criminologist, has been appointed consultant to President Hoover's commission on crime and law enforcement. He will be relieved for a time from duty as state criminologist.——Dr. Stanhope Bayne-Jones, professor of bacteriology, University of Rochester School of Medicine, gave a public lecture at the University of Chicago, August 8, on "Motion Pictures in the Study of Microbiology"; Robert G. Gustavson, professor of chemistry, University of Denver, spoke on "The Female Sex Hormone."

Proposal to Make Hospital Center a Park District.—A campaign has been launched to rescue Chicago's great hospital district on the west side, said to be one of the greatest in the world, from its squalid surroundings by having the territory around it made into a park district. A committee, representing the west side medical institutions, proposes to have the city acquire possession of all nonmedical property from Van Buren Street to Roosevelt Road and from Paulina Street to Ogden Avenue and to remove the poor type of building now on the grounds and convert the surrounding property into a park. The spokesman for the committee was Asa Bacon, superintendent of the Presbyterian Hospital. The county commissioners, the West Town Chamber of Commerce and unofficially the Chicago Plan Commission have approved the plan. The proper care of the sick in this area necessitates providing better surroundings. With this improvement will come the expansion of the institutions. In this area are the county hospital, Presbyterian Hospital, University of Illinois College of Medicine, Rush Medical College, Loyola University School of Medicine, dental schools, laboratories and other hospitals. The plan will be placed before the public in the hope that it will approve a bond issue.

MAINE

Illegal Operator Convicted.—Dr. Charles K. Donnell, Lewiston, was recently convicted on charges of manslaughter following the death of a woman as the result of an illegal operation. According to the *New England Journal of Medicine*, he had been in court seven times previously because of alleged illegal operations but had been acquitted.

Accidental Deaths Increase.—The death rate from accidental causes in Maine in 1928 increased from 68.9 per hundred thousand of population in 1927 to 80.3 in 1928, accidental drowning being the type of accident which showed the greatest increase. The general death rate for Maine for 1928 increased to 1,384.3 from 1,381.8 in the year 1927. The increase was due chiefly to nephritis, heart disease, cerebral hemorrhage and diabetes mellitus. There were, however, decreases in the death rates for cancer, tuberculosis, scarlet fever, whooping cough, measles and influenza.

MONTANA

Personal.—Dr. Melville G. Danskin, Glendive, was elected president of the Montana Public Health Association at the annual meeting, July 16, succeeding Dr. William W. Taylor, Whitefish. The secretary is Dr. William F. Cogswell, who is also secretary and executive officer of the state board of health. Dr. Danskin has been health officer of Dawson County for about eight years.

Decrease in Ratio of Mental Patients.—The total number of mental patients in the state hospital had increased from 1,451 on Jan. 1, 1922, to 1,472 on Jan. 1, 1928. The ratio of the number of patients to the total population of the state, however, decreased during the period 1922-1927 from 57.8 to 53.4 per hundred thousand of population. There was a total of 293 first admissions to the Montana State Hospital in the year 1927 and of 317 in the year 1922. The total number of patients present, Jan. 1, 1928, comprised ninety-seven males and 501 females.

NEW YORK

Governor Inspects Sixty Hospitals.—Governor Roosevelt recently visited about sixty state institutions for the physically or mentally defective. His impression is said to have been that the people should be newly awakened to the "need of making as part of their daily lives a constant search for the discovery of sick and afflicted in order that they may be given proper treatment," and that more state and federal institutions are essential for the care of the afflicted in body and mind as they are brought to light. Governor Roosevelt is quoted as saying that seeking them out and caring for them is of more importance than the economic and scientific progress of the country.

Cattaraugus County News.—Twenty-four physicians were guests of the county health officer and superintendent of the tuberculosis hospital at a dinner, recently, in Salamanca. Following the presentation of the film "The Doctor Decides," the tuberculosis problem of the county was discussed. Dr. Frederick A. Hemsath, director of the Cattaraugus County Laboratory, has resigned to become pathologist at the New York Lying-In Hospital, and Edmund D. Kline, D.P.H., director of the Jefferson County Laboratory in Birmingham, Ala., has succeeded Dr. Hemsath. Dr. Reginald M. Atwater, Cattaraugus County health officer, has been elected president of the Olean Rotary Club. Dr. Travis P. Burroughs, West Valley, has been appointed full-time deputy health officer.

New York City

Poliomyelitis Serum Available.—The special committee appointed by the New York Academy of Medicine to investigate the value of convalescent serum in the treatment of polio-

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myelitis has distributed a limited supply to the following physicians, who are cooperating with the committee:

Alfred E. Fischer, 27 West Seventy-Second Street. Trafalgar 2100.
Jacques M. Lewis, 495 West End Avenue. Endicott 9447.
Harry Mackler, 1133 Park Avenue. Atwater 6190.
William Messer, 1105 Fifty-Third Street, Brooklyn. Ambassador 7752.
Joseph C. G. Regan, 1928 Carroll Street, Brooklyn. Lafayette 5857.

They will assist physicians in doing lumbar punctures and will administer the serum in preparalytic cases, as it is considered of doubtful value after paralysis has set in. Assistance to practitioners will be rendered also by members of the meningitis division of the city health department in the diagnosis of early cases in which attending physicians are not interested in the serum treatment. The academy committee charges $25 for the administration of the serum, which is less than cost.

Personal.—The University of North Carolina has granted the honorary degree of doctor of laws to Dr. George H. Kirby, professor of psychiatry, College of Physicians and Surgeons of Columbia University.——Thomas W. Galloway, Ph.D., associate director, department of education, American Social Hygiene Association, formerly secretary of the American Microscopic Society, and teacher of biology in various schools, died at Murry Hill Sanatorium, July 16, of septicemia, at the age of 62. ——Dr. George Van Ness Dearborn gave clinics in the psychologic laboratory of the U. S. Veterans' Bureau Hospital in the Bronx, July 15 and July 22, before students of the mental hygiene class at New York University.——The board of governors of the New York Skin and Cancer Hospital has appointed Dr. Jerome Kingsbury attending physician to the dermatologic service.

NORTH CAROLINA

Personal.—Dr. Clarence A. Shore, Raleigh, was awarded the honorary degree of doctor of laws at the recent commencement of the University of North Carolina.——Dr. Clem Ham, Marion, S. C., has been elected health officer of Pitt County. ——Dr. Rayford K. Adams, Raleigh, has accepted a position with the state epileptic village at Skillman, N. J.——Dr. Thomas J. Sasser has been appointed school physician in the department of health of Charlotte.

Society News.—Every licensed physician in Onslow County is a member of the county medical society. Dr. Lewis B. McBrayer, Southern Pines, addressed the society, July 25, on "Present Trends of Organized Medicine." —— Dr. David A. Garrison, Gastonia, has been elected president of the North Carolina Hospital Association to succeed Dr. R. Duval Jones, New Bern.——The North Carolina State Society for the Control of Cancer has set aside the second week in October as cancer week. Each county medical society will be requested to form a committee to arrange to hold clinics.

Parenthood Institute.—The Southern Parenthood Institute will hold its first session at Black Mountain, August 12-16, in connection with the children's clinic. In the mornings there will be lectures on parenthood and child study, and in the afternoons, actual observation of children in playgrounds, nutrition classes, posture classes, the handiwork room and other environment. An opportunity will be given parents to confer with the instructors on special problems and those who desire may leave their children in the playground while attending morning sessions. A fee of $2 will be charged to cover the actual expenses.

PENNSYLVANIA

Society News.—The Cambria County Medical Society, Johnstown, was addressed, August 8, at the Chetremon Country Club by James N. Lightner, chief, bureau of narcotic drug control, Harrisburg, on "The Legal Use and Abuse of Narcotics." The afternoon was spent at golf. The society will hold its annual picnic at the Johnstown Rod and Gun Club, September 12, on the William Penn Highway in Jackson Township.

Conference of Officers of State Societies.—Pennsylvania, New Jersey and New York recently held in Pittsburgh their twelfth tristate conference of officers and editors of state medical societies. The subject for discussion, the ideal state journal, was presented by Dr. Frank C. Hammond, editor of the *Pennsylvania Medical Journal*. His paper was followed by a long general discussion which resulted in a stenographic report of the meeting of seventy-one pages. The presiding officer was the president of the Medical Society of Pennsylvania, Dr. Thomas G. Simonton. Among the speakers was Dr. Edward B. Heckel, Pittsburgh, chairman of the Board of Trustees of the American Medical Association. The discussion brought out the individual differences in make-up.

Philadelphia

Oldest Hospital Opens New Building.—The Pennsylvania Hospital, founded in 1751 and the oldest in this country, opened a new nine-story women's building at 807 Spruce Street in June, to which the old Philadelphia Lying-In Hospital moved July 1. The lying-in hospital celebrated its one hundredth anniversary about a year ago. It is the oldest maternity hospital in the country. The new women's building has thirty-seven private rooms, twenty-six semiprivate rooms, and eighty-seven ward beds. The seventh and eighth floors are for private patients. The sixth floor is for semiprivate patients; the fifth is for ward and private gynecologic patients, and the third and fourth floors are for ward patients. The second floor, which

is for septic patients, has facilities, also, for interns, medical students and supervising nurses, and on the first floor are reception rooms, record rooms, offices and clinics. On the roof is a lecture room and a large solarium. There is a nursery on each floor. An attempt has been made to get away from the conventional appearance of hospitals through a different decorative scheme.

SOUTH CAROLINA

Personal.—Dr. Henry B. Stewart, Fountain Inn, celebrated his fiftieth year in the practice of medicine in April.——Dr. Leon Banov, Charleston, has been elected president of the South Carolina Public Health Association for the ensuing year.—— Dr. Beverly A. Henry has been elected president of the chamber of commerce of Anderson.

Summer Schools for Adults.—In an effort to reduce illiteracy in South Carolina, which is said to be second to Louisiana in its percentage of illiterates, twenty-seven schools for adults were opened in Greenville County, July 29, for a four-week session. The schools are intended to provide an opportunity for grown persons who are not enrolled in day schools or who found it necessary to stop their education while in the grades. The theme of the program of the schools this summer is the home. In each community where the schools are, there will be a model home for pupils to visit to observe such phases of home life as cleanliness, sanitation, proper food and neatness of surrounding. These adult pupils will be taught entertainment features, manners, proper dress and general community life. Each will be given a health card to be checked every day, and a food chart to be checked at the beginning and close of the term. Eighteen of these adult schools in Greenville County are for white people and nine are for negroes.

One of them was held at the county jail. Louisiana is said to have spent, recently, many thousands of dollars to reduce illiteracy, whereas South Carolina during the same time has spent very little.

Increase in Pellagra.—In an address before the Second District Medical Association at Saluda, July 18, the state health officer, Dr. James A. Hayne, Columbia, is reported to have said that 4,066 cases have been observed in the state by physicians up to June this year, as compared with 2,905 cases in the same period of last year. There were 854 deaths from pellagra last year, Dr. Hayne said, and ninety-eight patients with pellagra have been admitted to the state insane asylum up to June 1 of this year, in contrast to sixty-seven for the same period of 1928. He referred to the trip to Italy of Drs. Babcock and Watson several years ago in order to identify pellagra in that country with pellagra as seen in South Carolina. Many conferences were held in Columbia in 1912 and 1913, and in 1915 Dr. Joseph Goldberger, with the cooperation of the Mississippi state health officer and the governor, was assigned twelve male convicts serving life sentences with whom to conduct dietary experiments on the cause of pellagra. These men were fed with a deficient diet, while the other residents of the penitentiary at the same time were used as controls. Six of the twelve developed pellagra and none of the forty-seven controls. Dr. Hayne said that the state board of health has sent out more than six tons of yeast in an effort to prevent the disease.

WISCONSIN

Accidental Deaths Increase.—Reports from the U. S. Department of Commerce indicate that the death rate from all accidental causes in Wisconsin increased from 66.4 per hundred thousand of population in 1927 to 72.8 in 1928. The types of accidents showing the greatest increase were automobile accidents, exclusive of collision with railroad trains and street cars, and machinery accidents. The general death rate in Wisconsin increased from 1,013.3 per hundred thousand of population in 1927 to 1,076.5 in 1928. The principal causes of the increased rate were heart disease, nephritis, cancer, diabetes mellitus, influenza and pneumonia. There were decreases in the rates for tuberculosis, measles, diphtheria, meningitis, acute anterior poliomyelitis and typhoid.

Whooping Cough in Milwaukee.—The commissioner of health of Milwaukee, Dr. John P. Koehler, says that whooping cough is more prevalent in that city than ever before in a six month period, the cases up to June 26 this year numbering 2,393 with thirty-four deaths. The commissioner points out that whooping cough prevails usually because well children are permitted to play with coughing children, and because of late diagnosis; the ignorance of some parents who do not believe in contagion, and late reporting to the health department. Many parents do not want their homes placarded, especially during the summer. The law requires that cases of whooping cough be placarded at least twenty-eight days from the date of reports. Indifference of the public and too few prosecutions are further factors in the spread of whooping cough. Attending physicians or the head of the family when a physician is not employed, should report suspicious cases within twenty-four hours. The health department requests the cooperation of parents and physicians in order to check whooping cough in Milwaukee.

GENERAL

Society News.—At the annual meeting of the American Society of Clinical Pathologists, Portland, Ore., July 8, Dr. James H. Black, Dallas, Texas, was made president, and Dr. Kenneth M. Lynch, Charleston, S. C., president elect; Dr. Harry J. Corper, Denver, continues to be secretary-treasurer.

Joint Meeting of International Societies.—The International Society of Medical Hydrology and the International League for Combating Rheumatism will hold a joint meeting, October 13-18, at Budapest, under the presidency of Dr. Alexander Korányi. The discussions will include (1) "Action of Hypertonic Waters"; (2) "Use of Waters and Baths in Cardiovascular Affections"; (3) "Relation Between Acute and Chronic Rheumatism in Various Countries," and (4) "Hematology and Serology of Rheumatism." A trip will be made to the health resorts of Hungary. Further information may be had by inquiry to the representative in this country of the International Society of Medical Hydrology, Dr. Guy Hinsdale, White Sulphur Springs, W. Va., or to the central bureau of the society, London, W. 1. 139, Marylebone Road.

Friendly Rivalry Among Cities.—The New York City Department of Health publishes, for comparison, a list of large cities showing the birth, death and infant mortality rates for the year 1928. The birth and death rates pertain to each thousand of population and the infant death rate to each thousand of live births reported. Some of them are as follows:

Cities	Population	Birth Rate	Death Rate	Infant Death Rate
Chicago	3,157,400	20.82	12.53	57.28
Philadelphia	2,064,300	17.88	13.05	70.59
Detroit	1,378,900	23.51	11.65	77.39
Los Angeles	1,200,000	14.79	11.29	64.59
Cleveland	1,010,300	17.74	10.24	60.18
New York	6,017,700	21.00	12.98	65.54

States Which Prohibit Liquor Prescriptions.—Ten states through local laws prohibit the issuing of permits to physicians for prescribing alcoholic liquors. They are Arizona, Arkansas, Idaho, Kansas, Maine, Nebraska, North Carolina, North Dakota, Utah and Washington. Local laws in the following states permit physicians to prescribe only a limited amount of alcohol, the amount varying with the state: Alabama, Delaware, Florida, Georgia, Indiana, Mississippi, New Mexico, Oklahoma, Oregon, South Carolina, South Dakota, Tennessee and West Virginia. The total number of federal permits issued to physicians throughout the country on July 1 was 69,645, as compared with 48,097 at the same time in 1927. The states in which most liquor licenses were issued were New York with 14,026; Pennsylvania with 8,255, and Illinois with 7,402.

International Congress for Mental Hygiene.—President Hoover has accepted an invitation to be honorary president of the first International Congress on Mental Hygiene which will be held in Washington, D. C., May 5-10, 1930. The congress, which is sponsored by organizations in more than twenty-six countries, will discuss the relation of mental hygiene to law, hospitals, education, industry, social work, delinquency, parenthood and community problems, as well as its specific application to the maladjustment problems of individuals. Out of the congress is expected to come an international committee with headquarters in the United States which will be a clearing house for information on mental hygiene and a coordinating mechanism for the development of programs of study in all countries. Administrative headquarters have been opened at 370 Seventh Avenue, New York, with John R. Shillady as administrative secretary. The secretary general is Clifford W. Beers, and the president, Dr. William A. White, superintendent of St. Elizabeth's Hospital, Washington, D. C. (THE JOURNAL, Dec. 15, 1928, p. 1903).

Influenza Surveys.—Cities in different sections of the country were selected by the U. S. Public Health Service for a survey to determine the morbidity in the influenza epidemic of last fall and spring. They were San Francisco, Seattle, Des Moines, Kansas City, Mo., Cincinnati, Pittsburgh, New Orleans, Baltimore, Syracuse, Boston and Farmington, Mo. The expense of canvassing and other obvious difficulties prevented extending the survey to rural communities. The samples of the population canvassed comprised not less than 10,000 people, except in Farmington. From twelve to twenty districts were marked off in each city and a house to house canvass was made. The records are subject to certain inevitable errors but, it is believed, they have a definite significance. The cases reported as "colds" probably are far from complete and may include cases of a heterogeneous type. The total number of cases of influenza, grip, pneumonia and colds per hundred persons canvassed was 47.1 in Des Moines; 37.7 in Farmington; 34.1 in San Francisco; 30.9 in Seattle; 29.6 in New Orleans; 27.1 in Kansas City; 27 in Cincinnati; 26.8 in Syracuse; 25.2 in Pittsburgh, and 23.5 in Boston, and 15.1 in Baltimore, exclusive of colds confining the patient to bed. The average of all these localities, except Baltimore, was 29.7 cases per hundred persons canvassed. In localities surveyed in 1929, nearly 15 per cent of the population canvassed gave a history of having had attacks of influenza or grip, while 0.47 gave a history of pneumonia. The incidence of pneumonia appears to have been one third as high in the epidemic of 1928-1929 as in the epidemic of 1918. The disparity between the two is probably still greater than these figures indicate since the periods covered by the last epidemic are longer than those covered in 1918. The mortality records indicate that a much greater disparity existed between the 1918 and the 1928-1929 epidemic. The latter epidemic was apparently of a much milder type.

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CANADA

Dr. Chipman Resigns.—Dr. Walter W. Chipman, professor of obstetrics and gynecology, McGill University Faculty of Medicine, Montreal, has severed his connection with the university after many years of service. His resignation, however, will not be effective until a successor has been appointed.

Personal.—The honorary degree of doctor of laws was conferred on Dr. Henry I. Taylor, minister of health of New Brunswick, at the recent commencement of the University of New Brunswick. Dr. Taylor gave the commencement address. ——Dr. John Ferguson, Toronto, was elected president of the Ontario Medical Association at the annual meeting in May.

Society News.—The Canadian Medical Association continues to send instructors into the provinces to assist practicing physicians. A recent trip through Alberta included stops by the team at Medicine Hat, Calgary, Red Deer, Lethbridge, Stettler, Camrose, Vegreville and Edmonton. —— The British Columbia Medical Association will hold its annual meeting, September 25-26, at Vancouver. The president of the Canadian Medical Association, Dr. Alfred T. Bazin, Montreal, among many others, will speak on the pitfalls of practice.

Dr. Gallie Appointed Professor of Surgery.—Dr. William E. Gallie has been appointed professor of surgery at the University of Toronto Faculty of Medicine to succeed the late Dr. Clarence L. Starr. Dr. Gallie graduated from the University of Toronto, studied orthopedic surgery in New York and returned to Toronto in 1925 to succeed Dr. Starr as chief surgeon of the Hospital for Sick Children. He was appointed to the faculty of medicine in 1907 as demonstrator in anatomy; in the next year as demonstrator of surgery and, in 1922, as assistant professor of clinical surgery. He gave the Hunterian oration before the Royal College of Surgeons of England in 1924 on "Transplantation of Fibrous Tissues in the Repair of Anatomical Defects."

FOREIGN

French Medical Excursion.—A trip to the mineral water and climatic resorts in the Alps, under the scientific direction of Profs. Paul Carnot, Maurice Villaret and M. Piéry, has been planned for September 3-14. The party will leave on a special train. Conferences will be given by one of the professors at each resort. The fee, including all necessary expenses, is 950 francs. The excursion is planned for physicians and senior medical students, but members of the physicians' families will be accepted, provided they do not total more than one fourth of the party. Applications for registration should be addressed to the secretary of the Voyages d'Etudes Medicales, 21, Rue De Londres, Paris, France.

School of Malariology.—The Italian consul general of Chicago writes that the study of malaria in Italy has greatly developed in the last few years as a result of work of experts and the fact that Italy offers an excellent ground for direct observations of results obtained by preventive means. This situation led to the establishment of the Superior School of Malaria in Rome two years ago. The Royal Italian Government desires that the courses of this school be attended by physicians, farmers, engineers, private parties and foreigners who are interested in malaria problems. The instructions comprises demonstrations, practical exercises and conferences by experts and excursions to the places drained or now under improvement, or to places still infected. Information will be given by the consul general, 330 South Wells Street, Chicago.

Conclusions of Committee on Psychoanalysis.—At the annual meeting of the British Medical Association in Manchester, July 22, a discussion took place in the governing body on the subject of psychoanalysis. The subject was brought before the delegates through the introduction of a motion that was rejected. The governing body, however, accepted the report of its committee, which for two and one half years has been conducting an investigation of psychoanalysis. The committee came to the following conclusions:

1. Freud's use and definition of the term psychoanalysis is one to be accepted.
2. Psychoanalysis should not be held responsible for the opinions or actions of those not, in the proper sense, psychoanalysts.
3. Other misconceptions in relation to the subject are to be recognized and removed.
4. There is a disposition, even among those hostile to psychoanalysis, to accept the existence of the unconscious mind as a reasonable hypothesis.
5. The committee cannot pronounce between the psychoanalysts and the most important criticism of their theory and method.
6. The committee expressed failure to express a collective opinion either for or against it.

Government Services

Army Personals

The promotion of Capt. James C. Kimbrough to the grade of major with rank from July 20 is announced.——Capt. William A. Boyle will proceed to Letterman General Hospital, San Francisco for duty, about October 10.——Capt. Otis B. Schreuder will sail from New York about December 11 for duty in the Hawaiian Department.——Capt. Shirley Q. Elmore has been assigned to Fort Logan, Colorado, for duty, effective about September 1.

U. S. Public Health Service

Surg. Carl Ramus has been directed to assume charge of the medical inspection of aliens at Calais, Maine.——Asst. Surg. Henry N. Fisher has been assigned to the marine hospital, St. Louis, and Asst. Surg. (R) James W. Bryan to the quarantine station at Boston.——Acting Asst. Surg. Roy L. Mullins has been assigned to duty at the marine hospital, New York City; Asst. Surg. (R) Ivan W. Steele to the marine hospital, Boston, and Asst. Surg (R) Vane M. Hoge to the marine hospital at Pittsburgh.——Orders have been issued by the surgeon general's office, assigning the following officers of the U. S. Public Health Service to the stations indicated: Asst. Surg. Hiram J. Bush, relief station, Washington, D. C.; Asst. Surg. (R) Frank F. Thweatt, Jr., Ellis Island, N. Y.; Surg. Joseph Bolten, marine hospital, Louisville, Ky.; Asst. Surg. George R. Welch, Washington, D. C.; Surg. Clifford R. Eskey, Washington, D. C.; Surg. Eugene H. Mullan, Ellis Island, N. Y.; Asst. Surg. (R) Walter P. Griffey, marine hospital, Chicago; Asst. Surg. Paul A. Neal, Jr., Ellis Island, N. Y.; Asst. Surg. Houston G. Foster, Ellis Island, N. Y.; Surg. George L. Collins, relief station, Philadelphia; Surg. Charles M. Fauntleroy, quarantine station, Charleston, S. C.. Sr. Surg. William G. Stimpson has been relieved from duty at relief station, Philadelphia, effective October 31, and placed on "waiting orders." Surg. James H. Oakley has been relieved at quarantine station, Charleston, S. C., effective October 31, and placed on "waiting orders."——Surg. Lon O. Weldon has been relieved from duty at Ellis Island, New York, and assigned to Portland, Ore., in charge of service activities.——Asst. Surg. John R. Murdock has been assigned to duty at Honolulu; Asst. Surg. Gerald T. Sprague to the marine hospital, San Francisco.

Navy Personals

After each name is the station to which the following medical officers have been ordered for duty unless otherwise indicated: Comdr. Joseph J. A. McMullin, League Island, Philadelphia; Lieut. Comdr. Lynn N. Hart, Navy Hospital, Washington, D. C.; Lieut. Comdr. Francis E. Tierney to duty involving flying; Pensacola, Fla.; Lieut. Robert S. Simpson to U. S. S. *Dobbin;* Lieut. John G. Davis, navy recruiting station, Chicago; Lieut. Robert Faust, St. Thomas, Virgin Islands; Lieut. Charles F. Flower, Mare Island, Calif.; Lieut. Tilden I. Moe, U. S. S. *Pennsylvania;* Lieut. Theophilus F. Weinert, Navy Medical School, Washington, D. C.; Capt. Edgar Thompson, to command of Navy Hospital, Charleston, S. C.; Lieut. Comdr. David Ferguson, Haiti; Lieut. Comdr. John Harper, U. S. S. *Trenton;* Lieut. Comdr. Roger D. Mackey, Navy Hospital, Boston; Lieut. Comdr. George W. Taylor, Navy Hospital, New York; Lieut. Houston B. Fite, U. S. S. *Pennsylvania;* Lieut. John Q. Owsley, Navy Hospital, New York; Lieut. Daniel P. Platt, Navy Hospital, League Island, Philadelphia; Lieut. Glenn S. Campbell, Navy Medical School, Washington, D. C.; Lieut. Ferris W. Thompson's resignation has been accepted, effective July 23; Lieut. Comdr. Paul P. Maher, Navy Hospital, Norfolk, Va.; Lieut. Comdr. Francis D. Gibbs, Naval Academy, Annapolis, Md.; Lieut. Comdr. Maurice S. Mathis, Navy Hospital, Norfolk, Va.; Capt. Harold W. Smith, Navy War College, Newport, R. I.; Lieut. Comdr. John L. Shipley to duty with the director general of the Public Health Service of Haiti; Lieut. Gilbert E. Gayler, submarine base, Coco Solo, C. Z.; Lieut. Howell C. Johnston, navy yard, Portsmouth, N. H.; Lieut. James F. Terrell, Richmond, Va.; Lieut. Cecil C. Welch, Navy Training Station, Newport, R. I.; Lieut. Milo R. Snodgrass resigned, effective July 2; Lieut. Comdr. Joel J. White, Navy Medical School, Washington, D. C.; Lieut. Thomas G. Hays, Navy Hospital, San Diego, Calif.; Capt. James A. Randall, to Asiatic Station, about August 5; Lieut. Edward J. Cummings has revoked his resignation; Lieut. Comdr. Ruskin M. Lhamon, Navy Hospital, Mare Island, Calif.

Foreign Letters

LONDON

(From Our Regular Correspondent)

July 13, 1929.

The Safety of Air Travel

At the official inquiry into the disaster of the *City of Ottawa*, the air liner of Imperial Airways which made a forced landing in the channel, June 17, as a result of which seven lives were lost by drowning, the attorney general, Sir William Jowitt, said the figures for air travel were satisfactory. The accident that happened in December, 1924, was to a single-engine aircraft, but since then Imperial Airways had used only aircraft with two or more engines. Between Jan. 1, 1925, and the date of the recent accident, Imperial Airways had flown more than 3,900,000 miles on cross-channel routes, in Europe and in the Near East, and had carried about 100,000 passengers without any accident involving the death of a pilot, mechanic or passenger in any aircraft while engaged in a regular passenger-carrying flight. The cause of the accident was the failure of one engine as a result of the breaking of bolts holding connecting rod bearings together.

The Strangeways Research Laboratory

The Cambridge Research Hospital, established in 1912 to investigate chronic and incapacitating diseases, especially rheumatoid arthritis, has been renamed the Strangeways Research Laboratory, to commemorate the work of the late Dr. T. S. P. Strangeways, to whose inspiration the founding of the hospital was due, and who gave his services voluntarily in its researches, besides shouldering the burden of obtaining financial support. He died in 1926 after making the hospital the leading institution in this country for the study of living tissues cultivated in vitro. With his death the laboratory faced a crisis. So closely had he been identified with it that not only the continuity of his methods but the existence of the hospital was threatened. However, those who had worked with him made the liabilities of the hospital a personal affair. Reorganization was carried out and drastic economies were instituted. During this difficult period Dr. J. A. Andrews undertook the temporary directorship of the laboratory, and the staff was able to carry on its research. The direction of research is now in the hands of Dr. Honor B. Fell. There are at present six workers engaged in full-time research work. Although the devotion of the staff has enabled the institution to be conducted with great economy, the future of the laboratory is a cause of anxiety. Neither the director nor any research worker has received payment from its funds. This gift of service has, in most cases, been rendered possible only by the aid of fellowships or research grants from other sources. The tenure of these benefactions is, however, limited to a few years. If the excellent work which is being carried on is to continue, the income of the laboratory must be increased sufficiently to enable it to provide salaries for a small permanent staff.

Alleged Negligence by Injecting Neoarsphenamine into the Superior Longitudinal Sinus of a Baby

An action was brought against a physician for negligence by injecting neoarsphenamine into the superior longitudinal sinus of a baby 14 days old. The case lasted seven days, and the usual conflict of medical evidence in such cases was glaring. The injections were given in 1920 on the diagnosis of congenital syphilis. In behalf of the plaintiff, the child's father, it was alleged that the child had never suffered from syphilis and that the fluid entered the brain, producing injuries which rendered the child a hopeless idiot and epileptic. The injections were given at the physician's office and no blood test was made beforehand. Within an hour of the first injection the child had a fit. Four further injections were given. The physician never mentioned his suspicion of syphilis to the parents, and they believed that the injections had been given for an attack of jaundice, from which the child had suffered. It was denied that either of the parents had ever had syphilitic infection, and since the birth of this child, who was the first-born, they had had two perfectly healthy children.

Dr. C. R. Crawford of Southsea gave evidence that he first saw the child in March, 1922, and thought the case to be one of epilepsy following injury to the brain, and that he would not feel justified in injecting neoarsphenamine into the longitudinal sinus of an infant without a positive Wassermann reaction. Nor did he think that a general practitioner should do the operation, which was one of great difficulty. Mr. Harold Burrows, F.R.C.S., said that the attempt to make such injections could have caused the injury. He would not agree that this was an ordinary case of idiocy due to some antenatal cause, and he did not believe that the defendant ever saw in this child the stigmas of syphilis. He said, however, that he did not treat syphilis himself, and that, "except in textbooks," he had never heard of such a condition as was found in this case as being due to injection. When asked what the textbooks were, he said that Prof. Leonard Findlay in Syphilis in Childhood (1919) had referred to the danger; but it proved that Professor Findlay was speaking of arsphenamine—a far more irritant drug. Dr. W. B. Cosens said that the child's condition was not congenital. The operation performed had now fallen into disrepute because of the possibility of a mistake. It was quite wrong to treat a child of 14 days with arsenic. He believed that if arsphenamine reached the brain cells it would destroy them.

In behalf of the defendant it was said that the textbooks advocated injections into the sinus as the best, easiest and safest way of introducing the drug used into a child's system. The defendant had performed the operation many times with perfect success. He admitted that his diagnosis of syphilis might have been wrong, but he saw signs of the disease and had to treat it by the most approved method. Asked about the effect on the brain should there be an accident in giving the injection, he said that some inflammation would be set up, but he did not think there would be destruction of brain tissue. Dr. R. C. MacPherson, medical superintendent of St. Mary's Hospital, Portsmouth, of which the child is an inmate, said there was nothing to differentiate the case from scores of other imbeciles. Since he first saw the child in May, 1926, the condition had become progressively worse. He also said that the use of arsphenamine injections in the longitudinal sinus was considered proper in 1920, and was proper still. Dr. F. M. R. Walshe, a neurologist, attributed the disease from which the child suffered to an imperfectly developed brain, and said that the case was typical of Little's disease. Dr. Walshe knew of no case in which such a condition as was found here was traceable to injections. If this amount of injury had been inflicted by outside intervention, the child would surely have died almost at once.

Dr. George Riddoch, another neurologist, said that the child had a lesion of the brain in both hemispheres which he did not believe was due to the injection. Mr. J. J. Abraham, a specialist in venereal disease, said that in 1920 an injection of neoarsphenamine into the longitudinal sinus was considered the best and a safe method of treating congenital syphilis in the infant. He had himself treated from 100 to 150 children by this method without ill result. Even if the defendant's diagnosis was faulty, the treatment would do the child no harm. Mr. A. Lawrence Abel, F.R.C.S., another specialist for venereal diseases, said that both in 1920 and at the present day the best way of treating congenital syphilis was by injection of neoarsphenamine into the longitudinal sinus; he had never heard of a case in which untoward results had followed. He considered that the child had severe but typical Little's disease.

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Mr. Abel said that the dose given was only one-ninetieth the dose given to an adult, and that if the fluid went into the brain in this strength and quantity it would have no effect in most cases and would not in any case cause permanent injury to the brain. Such a portion of the brain could not have been injured by external influence except by such injury as would kill. The health officer of Portsmouth stated that the authorities had supplied neoarsphenamine since 1917 to physicians who were regarded as capable of administering it properly, and the defendant, who had the necessary qualifications, was one of the first to whom the preparation was supplied.

The lord chief justice, in summing up, said that this was a case of exceptional gravity. The suggestion had been made on behalf of the plaintiff that the defendant never diagnosed congenital syphilis at all and entered on a series of dangerous operations in order to put fees into his pocket. Such conduct would not be negligence, but crime. The case failed unless it was shown that the condition of this child was the result of negligence, or, as the case had developed, of the calculated dishonesty of the defendant. Unless the jury was satisfied that the condition of the infant was due to the action of this physician in 1920, there was nothing else in the case. Therefore he asked the jury to say, "Was the condition of this infant caused by the treatment?"

The jury disagreed. Other questions which were put to them were answered as follows: Did the defendant believe that the infant plaintiff had congenital syphilis? Yes. Was he negligent in diagnosing that the infant plaintiff was suffering from congenital syphilis? Yes. Was he negligent in deciding on the method of treatment? No. Was he negligent in the way in which he administered the treatment? Yes, in his general treatment. The lord chief justice said that in view of these answers the case was not closed; it would be put into the paper for further discussion by counsel at a date to suit both parties.

PARIS

(From Our Regular Correspondent)

July 3, 1929.

The Paris Drinking Water Supply Incapable of Disseminating Typhoid

A member of the municipal council of Paris, having heard unfounded reports in regard to cases of typhoid observed in Paris, asked the prefect of the Seine whether the drinking water supplied to the population of Paris was sufficiently sterilized by the javellization process; whether it would not be well to consider the introduction of some other system, and other questions of like nature. In his reply, published in the *Bulletin municipal*, the prefect of the Seine stated that the largest part of the water distributed to Parisians is absolutely pure, as it comes from excellent sources. What has to be taken from the Seine or from the Marne, in summer, has been sterilized since 1911 by javellization. This process has given good results. Statistics show that, in 1880, 2,003 deaths from typhoid occurred in Paris; in 1882, the number increased to 3,000; in the following years it dropped to around 1,500, and in more recent years it has not exceeded 200. In 1928 there were only 151 fatal cases, although the population has steadily increased. If, therefore, typhoid is propagated by the water, it will be seen that marked progress has been made. Some cases may be due to unwholesome oysters, while some cases develop in transient visitors. It is true that, at certain periods, as the percentage of chlorine is increased, the water distributed to certain quarters, and especially in the suburbs, may have a disagreeable taste. But it will ever be thus as long as chlorine continues to be employed, irrespective of the system utilized for mixing it with the water. The city of Paris is considering, furthermore, employing, concurrently with javellization, an electrical process, which is much more effective and gives no bad taste to the water. The experiments performed thus far have been conclusive, and all bacteriologists have repeatedly called attention to the superiority of electrical sterilization.

Hypocholesterolemia in Rickets

In connection with the fact that the treatment of rickets has advanced a step with the use of irradiated sterols, it is of interest to note the results that Dorlencourt and Seitzoff have reported to the Société de pédiâtrie concerning the percentage of cholesterol commonly found in the blood of rachitic children. In subjects that present lesions in process of evolution, the percentage of cholesterol is always lowered. In the twenty cases examined by Dorlencourt and Seitzoff, the proportion of cholesterol was found to be 0.83 per cent in place of the normal figure, which is 1.40 per cent. This hypocholesterolemia is directly associated with the rachitic process. It is observed to the exclusion of any other acute infection, concomitant with the evolution of rickets. It improves as the rachitic condition improves, and disappears when the patient is restored. Rachitic hypocholesterolemia is directly influenced by effective antirachitic treatment (ultraviolet rays and irradiated sterols).

Hypocholesterolemia is likewise of common occurrence in craniotabes, even when craniotabes is the sole manifestation of osseous dystrophia, to the exclusion of any other rachitic lesion of the skeleton. One may consider this fact as a humoral proof of the identity of the origin of craniotabes and other rachitic manifestations. The conception of craniotabes as a simple retardation of cranial ossification would not explain the hypocholesterolemia associated with it. The diminution of the blood cholesterol during the evolution of rickets constitutes an important fact from the theoretical point of view. It is, in fact, comparable to the hypocholesterolemia that is observed during the evolution of various toxiinfectious processes.

The Treatment of Wounds by Diffuse Electrolysis

Dec. 21, 1926, M. Chevrier of Bordeaux presented to the Academy of Medicine a communication on a new method of sterilization and cicatrization of wounds by diffuse electrolysis of a physiologic serum, in the nature of a Ringer-Locke solution. On the advice of M. Métivet, M. Planque, chief physician to the Citroën factories, had two electrolytic stations installed, in 1928, at the Javel factory, for the application of the treatment in question. The results obtained were so satisfactory that, three months later, all the Citroën factories were provided with such stations. Up to the present time, more than 1,500 injured persons have been subjected to this method of treatment, and M. Métivet, who has had occasion to observe the application of the method, has noted the good appearance of wounds thus treated. In an article that he presented to the Société de chirurgie, M. Planque advances the principle that every wound due to an occupational accident should be regarded as infected. One should therefore always proceed with its wide and deep disinfection. That is the rôle of the "electrolytic bath." At the Citroën factories, every recent injury is subjected as a routine to the electrolytic bath for an hour, and then operated on, if need be, and dressed. If the injured person presents himself with a wound already infected, the bath is still indicated; this is followed by the proper surgical treatment (incisions, vaccination and the like). Electrolysis gives rise in the electroserum (which is essentially a Ringer-Locke solution) to oxygen, ozone, chloramines and the like, which sterilize the fluid almost immediately and impart in a few minutes a strong antiseptic power, without notable irritating action. At the same time, the fluid is heated. The method of application is as follows: In a receptacle, one pours from 2 to 3 liters of the electroserum and inserts the electrolyzer. The current passes through the fluid, and when it is heated the injured person, laying aside all the dressings, immerses his wound. If any compresses are still adherent, it is unnecessary to detach them, as they will fall off

of themselves. It is a simple matter for the patient to supervise the electrolysis. He maintains the temperature of the bath at from 37 to 40 C. by switching the current on and off. During the bathing process, detersion of the wound is facilitated, if need be, by the use of pledgets of cotton dipped in the bath fluid. Sphacelated particles are removed and burrows are opened up. The wound is then dressed with compresses that have been sterilized in the electrolyzed serum and rung out tightly. At first, the baths are given daily, but in deep infections (for example, phlegmons of the hand and felons) the baths are resorted to twice daily. Afterward, they may be given as indicated. At first, the duration of the bath is one hour; later, one-half hour. Planque has treated in this manner many different kinds of injuries and infections: clean wounds, contused wounds, sheet-iron wounds, millstone wounds, complications of lymphangitis, abscesses, felons, furuncles, burns, stab wounds, and others. The results have been encouraging. The method is agreeable to the patient, and while in the bath and after the bath he feels a genuine sense of comfort. From the surgical point of view one can thus prevent many septic complications; surgical treatment becomes more conservative; often, immediate suturing of wounds is thereby rendered possible. Viewed from the industrial angle, recovery is more rapid and the period of disability is reduced.

An Ethical Order of Physicians

The Academy of Medicine, now that it has decided to take part in the organization of an ethical order of physicians, is actively engaged with the problem at all its sessions, which does not fail to disquiet somewhat the body of practitioners, which does not recognize the authority of that learned body other than in purely scientific fields—not at all from the professional point of view. Professor Quénu, an eminent surgeon, has taken advantage of the occasion to raise a rather grave question. He has stated openly that many physicians, in recent years, have taken up the practice of surgery without sufficient preparation. To be sure, their degree of doctor of medicine confers on them the right to practice surgery. But Quénu contends that most physicians, unless they spend considerable time in a surgical service and serve a progressive apprenticeship under the direction of skilled masters, are not competent to undertake grave operations, which they sometimes do, in order to receive larger fees; they often perform these grave operations in such an unskilful manner that operative deaths result. He would recommend that physicians be not allowed to practice surgery except on the basis of a special diploma, and suggests that such a provision be incorporated in the law establishing an ethical order of physicians. His proposal has called forth many protests from practitioners. They see in this an attempt to reserve the practice of surgery (and its material compensations) to the general staff of the faculties of medicine and of the "official" hospitals. They refuse to accept such effacement, which would reduce them to the rôle of mere purveyors to the clientele of the aforementioned dignitaries. They emphasize that, if the physicians on whom the degree of doctor of medicine and surgery has been bestowed are inadequately prepared in surgery, it is because the instruction they received from the surgeons was incomplete. The natural remedy of the situation would not consist in establishing several categories among the doctors of medicine—some belonging to the first class, who would be permitted to render any medical service whatever, and some belonging to the second class, charged with recruiting the clientele of the former, but rather in the reorganization of surgical instruction of students in the hospitals and in the faculties of medicine, and in making more severe the examinations leading up to a diploma. The practitioner in a remote region of the country should be in a position to cope with whatever events arise, however serious, in case of emergency. Whatever attitude one may take toward the question, Quénu has raised a grave question from the professional point of view. The members of the Academy of Medicine have stated that the discussion with regard to the creation of an ethical order of physicians will continue, but not in public sessions. The sessions will be private, so that controversies between the members shall not be witnessed by outsiders and shall not be discussed in the journals, either medical or political. The statements of Professor Quénu, which appeared in the daily press, have made an unfortunate impression on the public, already too much inclined to inveigh against the physicians and surgeons for their lack of skill, and to demand, in case of failures, damages before the courts, which are all too prone to grant such demands.

NETHERLANDS

(From Our Regular Correspondent)

June 20, 1929.

The Annual Report of the Committee on Postgraduate Medical Courses

The committee on postgraduate medical courses, established at the general meeting held in Utrecht, met for the first time at The Hague, under the chairmanship of Prof. P. C. T. Van der Hoeven, Mr. S. Brandes serving as secretary. The proposal put forward by the preceding committee was discussed. That proposal provided that every physician should be obliged to spend two months in a clinic at least once in ten years. This proposal, it will be recalled, was rejected by the general session because of the enormous pecuniary sacrifices that it would have entailed. It was decided to send a note to a number of university professors, head physicians and directors of certain hospitals to ask whether, in principle, they would be willing to receive practitioners at definite periods. The large majority replied favorably. From all directions, suggestions poured in with regard to the best manner of giving such medical instruction. In various parts of the country, the idea was received with enthusiasm and postgraduate courses for physicians were organized. In order to reach a more perfect agreement, the clinicians who responded favorably to the appeal convened at Utrecht. The decision was reached to create: (1) special courses for practitioners; (2) clinical lectures given in the evening, and (3) an order of succession that would allow a certain number of physicians to follow, for from one to two weeks, all the activities of a hospital service. It was unanimously decided to invite the principal clinicians to deliver the lectures before various societies. Finally, since on this point the opinions were divided, it was decided to ask the opinions of the practitioners and the presidents of the regional societies in a letter in which the desiderata and the plans realizable in the various regions could be set forth.

The New Organ of the Netherlandic Society "Eerste Hulp bij Ongelukken"

The Netherlandic society Eerste Hulp bij Ongelukken has published the first number of a new review, *De voorpost van den dokter*. Mr. W. N. Van Der Hout is the editor. The editorial staff comprises, furthermore, Dr. D. Buyze, A. J. Ten Hope and G. O. Meulman. This number contains several articles setting forth the purpose of the review and the society, Eerste Hulp bij Ongelukken; an article by Health Officer Göbel on the mistakes commonly made in the application of first aid, and, in addition, some general articles. The subscription price is 1 florin ($0.40) a year. The headquarters of the administration are at Heemraadssingel 223, Rotterdam.

Statistics on Children

The statistics given here are taken from the compilations made by Dr. B. H. Sajet, Amsterdam, on the subject of children between the ages of 1 and 5. The children belonging to this age group constitute an important part of the population.

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The total population of the Netherlands increased 25 per cent between 1870 and 1920; the number of nurses, 31 per cent, and the number of children of preschool age, 20 per cent. The number of boys over 1 year of age has increased 14.9 per cent; over 2 years of age, 19.1 per cent; over 3 years of age, 21.3 per cent; over 4 years of age, 22.8 per cent, and over 5 years of age, 24 per cent. It will be observed that, the higher the age group, the greater is the increase in the percentage of surviving members of that group. That proves that many children who would have died in the seventies still survive. The older children become, the less important are the dangers that threaten them.

If researches are made on school children, one notes not merely the presence of congenital disorders but likewise many other disorders the treatment of which would have been more effective if it had been applied at an early age; for example, infantile paralysis, trachoma, rachitic deformities, pulmonary tuberculosis, gonorrheal vulvovaginitis. Cases of enuresis, asthma and chronic purulent otitis are of frequent occurrence. The number of blind young children, in 1920, was 118; the number of deafmutes, 188. A survey was made among the school children of the school year 1920-1921, for which 882 children between the ages of 6 and 7 were examined. The purpose was to ascertain whether they had suffered from one of the infectious diseases of children and at what age. It was found that 78.6 per cent of the children had had measles, and 32.8, pertussis. It was peculiar that children of poor parents are affected earlier by the last two diseases mentioned than the children of the well-to-do. The same thing was observed with reference to scarlet fever and diphtheria. Of the children examined, 10.2 per cent began to walk in their first year; 66.8 per cent in their second year, 15.3 per cent in their third year, 6 per cent in their fourth year, and 1.7 per cent still later. It was observed that children of the working classes began to walk later than children of the well-to-do. Of the children examined, 12.3 per cent had been affected by rickets. In enuresis, also, it was noted that the percentage was higher among the poorer classes than among the well-to-do, doubtless owing to the poorer conditions of treatment and lodging. Trachoma, which was formerly very frequent, was declining. The influence of economic conditions on the mortality of children between 1 and 4 years of age is greater than on nurslings. These are the chief causes of death: infectious diseases, scarlet fever, measles, pertussis and diphtheria; various forms of tuberculosis, and disorders of the respiratory tracts. Of 5,224 deaths occurring between 1917 and 1924, 197 were due to meningitis, while 217 were due to violent causes. Compared with the period 1907-1912, a decrease in mortality caused by the aforementioned diseases was noted, influenza being the only exception.

	1907–1912	1917–1924
Tuberculosis	Boys, 38.2 per cent Girls, 28.0 per cent	33.9 per cent 24.8 per cent
Measles, diphtheria, scarlet fever, pertussis	Boys, Girls,	64.2 per cent 66.4 per cent

In closing, the author pointed out the importance that preventive medical treatment might have not only for infants and school children but also for children of preschool age.

Christian Huygens (1629-1929)

The third centenary of the birth of Christian Huygens was celebrated, April 13. The senate of the University of Leyden, at which Huygens carried on his studies, the Royal Academy of Sciences, and the Society of Netherlandic Sciences in Haarlem, which has acquired fame by its publication of the manuscripts of Huygens, were represented at the ceremonies. Mr. Picquard, perpetual secretary of the Académie des sciences, Paris, of which Huygens, at the request of King Louis XIV, was one of the founders, also participated. Huygens invented the chronometer, and made his own lenses for his microscope. He called attention to the clearness with which microscopic objects appeared when seen on a dark background with lateral illumination. He studied many small aquatic animals and described them so minutely that it is possible for any student of Protista to recognize them. He discovered, almost two centuries before Helmholtz, by exclusion of all other hypotheses, the explanation of the mechanism of the accommodation of the eye through changes in the curvature of the crystalline lens. Christian Huygens was not merely a great light of the seventeenth century but continues to occupy a high place down to the present day.

The Leyden Institute of Preventive Medicine

An institute of preventive medicine has been established at Leyden, the first of the kind to be created in the Netherlands. On the administrative committee will serve Mr. W. J. M. Van Eysinga, professor at the Faculté du droit and rector of the University of Leyden; Mr. P. J. Idenburg, general secretary; Prof. Dr. J. A. Barge of the Faculté de médecine; Prof. Dr. E. Gorter of the Faculté de médecine, and Dr. M. D. Horst, director of the medical service at Leyden. The institute has a threefold purpose: (1) the application of preventive measures to diseases; (2) the study of new problems of preventive medicine, and (3) the instruction of physicians and nurses, together with responsibility for publicity campaigns.

The society will occupy itself particularly with prenatal care, the care of infants, children of preschool age, and school children, and the care of adolescents and adults. In addition, the institute will study, as far as possible, the prophylaxis of occupational diseases. At the start, only a part of this vast program can be carried out, but it is hoped that, with the aid of subscriptions from generous donors, it will soon be possible to realize the entire program. The administration is composed of five persons, while the general committee comprises at least sixty members.

ITALY

(From Our Regular Correspondent)

July 6, 1929.

Summer Institute for Italian and Foreign Physicians

As a result of the initiative of Professor Cattaneo of the University of Milan, the first summer institute for Italian and foreign physicians has been organized. The seat of the institute will be at Colle di Varese, near Milan. The courses will begin July 1 and will include readings and lectures by the professors of the Italian faculties of medicine, and also practical exercises. For the latter the University of Milan has placed its own scientific laboratories at the disposal of the institute. Abstracts of the readings will be prepared in the principal foreign languages.

The Società di Medicina and Colonial Hygiene

The directorate of the Società di medicina met recently in Rome, under the chairmanship of Professor Gabbi, senator and medical clinician of Parma. The headquarters of the society have been permanently established at Rome. The rules and regulations have been completed; the constitution has been modified, and questions pertaining to the character of its relations and its activities have been settled. Professor Gabbi referred to the preparations for a scientific mission to western Eritrea as proceeding satisfactorily. It was decided to hold the national congress of the society at Rome in October, with the following agenda: (1) sprue, with papers by Professors Castellani and Ascoli; (2) leprosy, with papers by Stanziale and Ronga; (3) malaria, with papers by Gosio and Pontano; (4) reviews on the present status of tropical hematology by Professor Castronuovo, and on trypanosomiasis by Domizio and Penezzi.

The Labor Policlinic

Through the initiative of a group of industrialists of Latium, the first Italian labor policlinic was created and recently inaugurated in Rome. It is under the direction of Professor Vigliano and is divided into twelve sections, one of which is the Medicina del lavoro. It is provided with radiologic, biologic and chemical laboratories, and has a special department for the functional reeducation of traumatized persons, and an installation of physical therapeutic apparatus. Very soon it will have also a psychotechnical laboratory for vocational guidance and for the relief of wrong postures of occupational origin. The workmen and their families will have the free use of all the services of the new policlinic.

Defense Against Chemical Warfare

The International Commission of Experts for the protection of the civil population against chemical warfare met recently in Rome. The purpose of the meeting was the study of the organization of general and individual protection against attacks with asphyxiating gases. The discussions centered around the various means of defense, the formation of first-aid crews, the means of assisting those injured or overcome by gas, the organization of shelters, and the education of the people as to the means of defending themselves against gas attacks. The Italian delegation was presided over by Prof. Alessandro Lusting, senator.

Hygienic and Social Propaganda

Professor Angelici has put out a hygienic placard intended for workmen and school children, dealing with the subjects of old age, tuberculosis, alcoholism, illiteracy and poverty. It sets forth for each subject the causes, the remedies, and the means of preventing, combating or mitigating the evil; also the provisions that the state makes for the relief of each condition. The placard will be posted in the industrial establishments, in the offices of the health services, and in the schools.

The Society of Dermatology and Syphilography

The twenty-fifth annual session of the Società italiana di dermatologia e sifilografia was held, this year, at Milan, in the Clinica dermosifilopatica, under the chairmanship of Professor Truffi. The first topic on the program was "Fever and Malaria Therapy in Syphilis," as presented by Prof. Agostino Pasini of Milan. The speaker affirmed the observation that fever therapy in general and malaria therapy in particular exert a favorable action on the manifestations of syphilis. The action is more intense when it is combined with antisyphilitic treatment, and when the fever is provoked by infectious diseases, and particularly malaria, instead of by vaccines or by chemical substances. The therapeutic effects are observed especially in late lesions of syphilis affecting the nervous system, and particularly in paresis. In that disease, the clinical symptomatology and the condition of the cerebrospinal fluid are improved in from 45 to 50 per cent of the cases, according to most neurologists, though Gerstmann reports a percentage of 73.7. The improvement may continue until the subject has recovered, or until he is able to resume his work and his social relations. In dorsal tabes the curative results are less significant and less frequent. In personal cases of the speaker, malaria therapy was found useful in meningeal syphilis, being of especial aid in bringing the cerebrospinal fluid back to normal. Of great importance in malaria therapy is the selection of the strain for inoculation. The use of the plasmodium of quartan malaria or of *Laveraniа malariae* caused untoward reactions at Vienna and Hamburg. The speaker has always used a selected asexual strain of *Plasmodium vivax*, procured from the psychiatric clinic in Vienna. This malarial infection can be easily checked with a few doses of quinine. The mechanism of the action of malaria therapy in nervous forms of syphilis is unknown; it is possible that a catalyzing action with reference to specific drugs is involved. Malaria therapy is not indicated in the ordinary manifestations of recent syphilis (the primary and secondary phases), which yield more readily to the usual forms of antisyphilitic treatment.

The second topic was divided into two parts. Professor Mariani of Bari discussed the subject in general, referring more particularly to the defense reactions and to the immunized states of the skin. The receptivity of the normal skin toward micro-organisms or other infective agents which are found in the dermal or the hypodermal tissues, or which penetrate them, was considered in various cases. As a general thing, it may be stated that the cutaneous defenses are not equal to resisting the virulence of harmful substances. The inadequate defense may be attributed either to deficient sensitiveness of the skin to stimuli or to an equilibrium between sensitiveness and reactivity. In considering the prophylactic defense of the normal skin, importance must be attached to the chemical constitution of the cells, aided by the sebaceous secretion.

Dr. Jaja of Bari treated the variations in cutaneous sensitiveness and reactivity as the basis of immunizing phenomena. The speaker considered the anaphylactic cutaneous manifestations in relation to the organic constitution, the modifications of cutaneous symptomatology in relation to the localization of anaphylactic poisons in various cutaneous strata and to the variety of the anaphylactogens and their mode of absorption. He discussed also true allergy (the Pirquet conception), considering as its genuine expression the tuberculinic and the bacterial types, and pointed out that one cannot deny the theoretical identity between allergy and anaphylaxis. On the basis of his personal experiences with the Schick and the Dick tests, the author was able to confirm the almost constant specificity of the former and the frequent aspecificity of the latter.

Dr. Sannicandro reported the results of his researches on the ferments of the normal and the pathologic skin. The healthy skin is abundantly provided with enzymes (catalases, peroxidases, lipases, amylases, proteolytic ferments). The diseased skin, and particularly that of persons suffering from chronic infections (tuberculosis, syphilis), is less rich in ferments.

Dr. Farina spoke of the mechanisms of cutaneous immunization in theory and in practice, drawing the conclusion that local cutaneous immunity is of a strictly cellular nature and is established without the aid of circulating antibodies.

Dr. Bonaduce considered the practical applications of prophylaxis and local immunizing therapy. The speaker recounted his experiments in pyogenic and gonococcal infections with various antiviruses, and expressed the conclusion that, while the antivirus applied locally in pyogenic infections has a definite therapeutic value, the gonococcal antiviruses applied locally in the urethral types have a very doubtful therapeutic action. The gonococcal serums and vaccines applied locally gave unfavorable results, provoking grave exacerbations in chronic types.

The conventionists discussed, then, the increased incidence of leprosy in Italy, and in a special resolution suggested to the central government what provisions should be made to prevent the situation from getting worse.

Prizes Offered for Monographs on Sociomedical Subjects

The *Rivista di terapia moderna e medicina pratica* has offered prizes amounting to 10,000 lire for two monographs on the subjects: "Preventive Medicine and Vocational Guidance as Applied to Operatives in Relation to Social Insurance," and "Social Reasons for the Back-to-the-Country Movement."

Admission of Medical Students to Hospital Departments

The Consiglio superiore di sanità, with a view to securing a more efficient clinical preparation of young physicians, has transmitted to the minister of the interior the suggestion that the hospital administrations admit students of the fifth and sixth years of medicine to the departments of infectious diseases. The

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minister has therefore arranged that such students, divided into groups and observing suitable prophylactic measures, may participate in the medical visits and in the clinical and therapeutic demonstrations that shall be made by the directors or by the chief physicians of the isolation department of the hospitals.

BERLIN

(From Our Regular Correspondent)

July 6, 1929.

The Birth Deficit in Germany

Before the war, the German Empire, with average annual totals of 2,000,000 births and 1,200,000 deaths, had an annual excess of births over deaths of about 800,000, or from 12 to 14 per thousand inhabitants. In 1927 there were only 1,160,000 births, or 18.3 per thousand of population; 757,000 deaths, or 12.0 per thousand, and an excess of births over deaths of 403,000, or 6.4 per thousand. The annual excess of births over deaths has thus dwindled down to half that of the prewar status.

The excess of births over deaths that is still recorded today is, however, a delusion that arises from the present peculiar distribution of the age groups. An analysis freed by means of refined methods of research from the accidental data of the distribution of the age groups reveals our true demographic position today. According to this adjustment of statistics, the death rate, on the basis of the present average length of life (57.4 years), is not 12 per thousand, as is stated according to the unadjusted computation, but 17.4 per thousand, whereas the birth rate, on the other hand, on the same readjustment basis, is not 18.3 but 15.9 per thousand. These adjusted birth and death rates give, instead of an excess of births over deaths of 6.4 per thousand, a deficit of 1.5 per thousand of population. In other words, the adjusted birth rate of Germany is, on the average, about 10 per cent below what is needed to preserve the population of the country. In Berlin, the birth deficit amounts now to 57 per cent (almost three fifths), and the average birth deficit of the large cities of Germany is 42 per cent (slightly more than two fifths). The large cities are no longer able to preserve their present status of population by virtue of their own inner strength, and even the middle-type cities and the small towns, whose birth rates, on the average, are lower than the birth rates of such metropolitan centers as Paris and London, have already a birth deficit of approximately a third (31 per cent). Only in the rural regions does one occasionally find birth rates in excess of the minimal requirement for the preservation of the population. But the life assets of the rural population are now no longer sufficient to compensate for the enormous birth deficit of the urban populations.

Occupational Diseases and Social Legislation

Social insurance against occupational diseases was first adopted as an inherent part of insurance against accidents by the decree of May, 1925. This decree, which brought only a small proportion of the existing occupational diseases under the protection of insurance, did not measure up to expectations. The new act of Feb. 11, 1929, entitled "A decree concerning the extension of accident insurance to occupational diseases" introduces many changes in the previous law.

The most important change is the material increase in the number of listed occupational diseases. Whereas previously only eleven diseases came under the protection of insurance legislation, there are now twenty-two such diseases. In addition to the previous list of diseases, the following have been recognized: cutaneous disorders resulting from galvanizing operations and from contact with foreign woods, and disorders of the muscles, bones and joints arising from work with tools operated by compressed air. Of further importance is the fact that deafness and hardness of hearing bordering on deafness, caused by excessive noise in the metal-working and metal-manufacturing industries, are likewise recognized as occupational disorders. In addition, grave pneumonoconiosis developing in the sandstone quarries and in the cutting of sandstone, in metal grinding establishments, in the porcelain industry and in the mining industries is regarded as an occupational disease. That is likewise the case when pulmonary tuberculosis coincides with pneumonoconiosis or is the result of that condition. The insurance is not, as it was formerly, confined to industrial accident insurance but includes also agricultural and marine insurance. For example, the list of compensable diseases enumerates also the typical disorders of sailors (tropical diseases, typhus, scurvy) as occupational diseases. Infections occurring among the personnel of hospitals, sanatoriums and similar establishments are likewise recognized as occupational diseases. The insurance is not confined to industrial establishments but extends also to activities that are covered by accident insurance in general. A further modification of accident insurance provides that a sharp distinction shall be made between industrial accidents that occur by reason of sudden and unforeseen events, and occupational diseases that are caused by long or repeated actions. Section 547 of the federal act pertaining to the regulation of occupational insurance decrees: "Accident insurance shall apply to occupational diseases irrespective of whether the disease is caused by an accident or by an injurious action that cannot be classified as an accident." The regulations concerning notification by physicians have been revamped and made more stringent. (All physicians are compelled to report every case of occupational disease, even though only a suspicion exists, to the insurance bureau having jurisdiction.) Section 5 of the regulations contains provisions concerning a so-called transitional benefit: "If the fear is justified that an occupational disease will develop, reappear or become exacerbated provided the insured continues to be employed in an establishment that is subject to insurance against the disease in question, the insurance carrier shall be entitled to grant the insured a transitional benefit, which shall not exceed half of the full benefit, so long as he refrains from working in the menacing industry." The second paragraph of this section is likewise important, which provides that, in certain cases, the disability benefit shall be paid in addition to the transitional benefit,

Marriages

PAUL RUTHERFORD MACFADYEN, JR., Concord, N. C., to Miss Martha Elizabeth Goodwin of Louisa, at Rockville, Md., August 3.

CHAPMAN HUNTER BINFORD, Pamplin, Va., to Miss Thelma Lynette Beauchamp of Rainswood, June 8.

OSWALD FENTON HEDLEY, New Orleans, to Miss Charlotte Marie Best of Round Hill, Va., June 26.

HOMER BROWNING LUTTRELL, Bramwell, W. Va., to Miss Virginia Painter of Pulaski, Va., July 6.

FRANCIS BAILEY TEAGUE, Roanoke, Va., to Miss Doris Evalene Ferrell of Lynchburg, June 8.

CHARLES HAWES EVANS, East Orange, N. J., to Miss Eleanor Goodwin Brown of New York, June 8.

DAVID ARCHIBALD JOHNSTON to Miss Stella Rubart, both of Cleveland, at Mansfield, July 3.

JACK SMILEY, Salem, Va., to Miss Mary Frances Duke, in Washington, D. C., April 19.

HOWARD ANDERSON MCCORDOCK, St. Louis, to Miss Ruth Darby of Buffalo, June 29.

EMERSON MACAULAY BABB, Ivor, Va., to Miss Virginia Bell Smith of Franklin, June 25.

FRANK CLINTON GALLAHER to Miss Maudie Bowles, both of Shawnee, Okla, July 17.

ALVIN STEWART THURSTON to Miss Mary Planert, both of Chicago, June 18.

Deaths

William Henry Carmalt ✠ New Haven, Conn.; Medical Department of Columbia College, 1861; lecturer in ophthalmology and otology, 1876-1879, professor of ophthalmology and otology, 1879-1881, professor of principles and practice of surgery, 1881-1907, and since 1907 emeritus professor at Yale University School of Medicine; member of the House of Delegates of the American Medical Association, 1905-1907; member, past president and vice president of the American Surgical Association; past president and for many years councilor of the New Haven County Medical Society; past president, vice president, and for many years chairman of the council of the Connecticut State Medical Society; member of the New England Surgical Association; consulting dermatologist to the New Haven Hospital; aged 92; died, July 17, of myocarditis.

Paul A. Lewis, Princeton, N. J.; University of Pennsylvania School of Medicine, Philadelphia, 1904; associate in pathology, 1908-1910, and since 1923 associate member of the Rockefeller Institute for Medical Research; director of the laboratory of the Henry Phipps Institute, Philadelphia, 1910-1923; professor of experimental pathology at his alma mater, 1921-1923; for three years assistant in the antitoxin laboratory of the Massachusetts State Board of Health; member of the Association of American Physicians, and member and past president of the American Association of Pathologists and Bacteriologists; one of the directors of the National Tuberculosis Association; aged 50; died, June 30, at Bahia, Brazil, S. A., of yellow fever, while conducting an investigation for the Rockefeller Institute.

Joseph Samuel Cohn ✠ Chicago; University of Illinois College of Medicine, Chicago, 1910; formerly instructor in pediatrics at his alma mater; associate attending pediatrician to the Mount Sinai Hospital and attending dispensary physician to the City of Chicago Municipal Tuberculosis Sanitarium; aged 43; died, July 23, of sinus thrombosis, following mastoidectomy.

Joseph E. Morrow ✠ Indianapolis; Medical College of Indiana, Indianapolis, 1883; at one time adjunct professor of genito-urinary and venereal disease, Central College of Physicians and Surgeons; formerly on the staff of the City Hospital; aged 76; died, July 13, at the Methodist Episcopal Hospital, of heart disease.

James Decker Munson, Traverse City, Mich.; University of Michigan Medical School, Ann Arbor, 1873; member of the American Psychiatric Association; for many years superintendent of the Traverse City State Hospital, the general hospital bearing his name; aged 80; died, June 24, of heart disease.

William Gladstone Lemmon ✠ Tulsa, Okla.; Columbia University College of Physicians and Surgeons, New York, 1910; served during the World War; member of the staff and board of governors of St. John's Hospital; aged 42; was accidentally shot and killed, July 4, while cleaning a revolver.

James West Wright ✠ Kokomo, Ind.; Medical College of Ohio, Cincinnati, 1884; past president of the Howard County Medical Society; formerly secretary of the board of health of Kokomo; on the staff of the Howard County Hospital; aged 73; died, June 23, of carcinoma of the rectum.

Charles Moore Paul ✠ Cincinnati; Medical College of Ohio, Cincinnati, 1896; served during the World War; formerly on the staff of the Booth Memorial Hospital, Covington, and president on the staff of the Bethesda Hospital; aged 59; died, July 16, of heart disease.

William Arthur Burns, Moran, Texas; University of Louisville (Ky.) School of Medicine, 1913; served during the World War; aged 39; died, July 4, at the Stamford (Texas) Sanitarium, of pneumonia and liver abscess, following perforated duodenal ulcer.

George Putnam Perley, Woodstock, Conn.; Medical School of Maine, Portland, 1880; University of Pennsylvania School of Medicine, Philadelphia, 1885; aged 71; died, June 29, at the Day-Kimball Hospital, Putnam, of malignant papilloma of the urinary bladder.

Henry Stanford Persons ✠ Montgomery, Ala.; University of Virginia Department of Medicine, Charlottesville, 1893; aged 60; died, June 24, at the Johns Hopkins Hospital, Baltimore, of bronchopneumonia, following operation for brain tumor.

William Edward Edmiston ✠ Columbus, Ohio; Starling Medical College, Columbus, 1892; for many years a member of the city board of health; on the staff of the Mount Carmel Hospital, where he died, July 7, aged 59, of cerebral hemorrhage.

Leslie Dunlap Snow ✠ Auburn, N. Y.; Syracuse University College of Medicine, 1904; on the staff of the Auburn City Hospital; aged 50; died, July 12, at the Clifton Springs Sanitarium, of chronic nephritis, arteriosclerosis and hypertension.

William David Morris ✠ Montreal, Que., Canada; McGill University Faculty of Medicine, Montreal, 1924; member of the New Hampshire Medical Society; aged 28; was killed, June 20, in a seaplane accident in the St. Lawrence River.

William N. Bryant ✠ Springfield, Vt.; University of Vermont College of Medicine, Burlington, 1873; past president of the Vermont State Medical Society; formerly member of the state legislature; aged 77; died, July 10, of heart disease.

Wallace Nathaniel Sweet ✠ Hartford, Conn.; Columbia University College of Physicians and Surgeons, 1916; served during the World War; aged 41; died, July 5, at the Hartford Hospital, following an operation for acute appendicitis.

George W. King, Portland, Ore.; University of Michigan Medical School, Ann Arbor, 1877; formerly assistant to the professor of surgery at his alma mater; aged 82; died, June 26, of arteriosclerosis, chronic nephritis and myocarditis.

Benjamin F. Johnson, Garfield, Ga.; University of Georgia Medical Department, Augusta, 1896; member of the Medical Association of Georgia; aged 57; died, June 29, in a hospital at Millen, following an operation for gallstones.

Samuel Crowell, Boston; Harvard University Medical School, Boston, 1885; member of the Massachusetts Medical Society; on the staff of the Massachusetts Women's Hospital; aged 71; died, July 17, of bronchopneumonia.

Morris Morrison ✠ Westby, Wis.; University of Michigan Medical School, Ann Arbor, 1897; aged 57; died, June 30, at the Lutheran Hospital, La Crosse, of myocarditis and shock, following fracture of the left humerus.

James Stewart Eastwood ✠ Brandon, Vt.; University of Pennsylvania School of Medicine, Philadelphia, 1898; aged 59; died, June 12, at the Mary Fletcher Hospital, Burlington, of chronic myocarditis and nephritis.

Reginald McIntosh Burdon ✠ Green Bay, Wis.; University of Pennsylvania School of Medicine, Philadelphia, 1899; on the staff of St. Mary's Mothers' and Infants' Home; aged 55; died, July 2, of heart disease.

Elizabeth Dort, Buffalo; College of Physicians and Surgeons, Boston, 1899; member of the Medical Society of the State of New York; aged 74; died, June 12, of acute nephritis, myocarditis and arteriosclerosis.

John Adams Chaffee, Oakwood, Ill.; Medical College of Indiana, Indianapolis, 1897; aged 60; died, June 23, at St. Elizabeth's Hospital, Danville, following an operation for removal of the prostate.

Christian John Biedenkopf, Newark, Ohio; Rush Medical College, Chicago, 1903; member of the Ohio State Medical Association; served during the World War; aged 53; died, July 1, of gastric ulcer.

Edwin Clarence Disbrow ✠ Toms River, N. J.; College of Physicians and Surgeons, Baltimore, 1881; on the staff of the Paul Kimball Hospital, Lakewood; aged 76; died, June 26, of cerebral hemorrhage.

Leo Delbert Gregerson, Monroe, Utah; Jefferson Medical College of Philadelphia, 1929; aged 29; died, June 17, at the Jefferson Hospital, Philadelphia, of mitral stenosis, myocarditis and pulmonary infarct.

Benjamin F. Hawley, Philadelphia; Jefferson Medical College of Philadelphia, 1882; aged 75; died, June 19, at the Philadelphia General Hospital, of hypertrophy of the prostate.

Lawrence Edward Sleeper ✠ Chicago; Northwestern University Medical School, Chicago, 1904; member of the Nebraska State Medical Association; aged 51; died, May 25, of paresis.

Frank Ellis Bird, Albuquerque, N. M.; Ohio Medical University, Columbus, 1903; member of the New Mexico Medical Society; aged 63; died suddenly, July 8, of heart disease.

Rush Right Gingles ✠ Onawa, Iowa; Louisville (Ky.) Medical College, 1893; past president of the Monona County Medical Society; aged 59; died, July 13, of influenza.

John H. Herring, Eau Claire, Mich. (licensed, Michigan, 1900); aged 79; died, June 29, of heart disease.

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Bureau of Investigation

A PYORRHEA-CURE FRAUD

The Postal Authorities Close the Mails to Dr. Cheek's Laboratories

For some years there has been advertised an alleged cure for pyorrhea, purporting to be the discovery of Dr. J. H. Cheek, "the Famous Pyorrhea Specialist." The postal authorities on July 8, 1929, issued a fraud-order closing the mails to the Dr. Cheek's Laboratories, J. H. Cheek, D.D.S., president, and various other trade names used by the concern. According to the memorandum of the Solicitor of the Post Office Department to the Postmaster-General recommending the issuance of a fraud-order, it appears that the business was first started in St. Louis, Mo., about seven years ago by J. H. Cheek, M. C. Binford and Charles Thornton. Later, it was incorporated, the officers being J. H. Cheek, president; Emma Heinritz, vice president, and George W. Brendel, secretary and treasurer. Capital stock was issued to the amount of $10,000, the majority of which is held by Brendel. Charles Thornton has had no connection with the business since its incorporation. J. H. Cheek, who is a dentist located in Terre Haute, Ind., is also said to have withdrawn from active participation in the business, but permits the use of his name by the present operators, consisting of Mr. Brendel and his sister. Brendel himself is a printer by trade.

The alleged treatment consisted, essentially, of a mouth wash, although there were accessories, such as a tooth paste, a "tartar

YOUR
PYORRHEA
Trench Mouth, Bleeding Gums and Gum Boils
Can Be Stopped Right At Home
FREE PROOF without a cent for you to pay.
J. H. Cheek, D. D. S.
DR. CHEEK, the famous pyorrhea specialist, has a complete treatment for the relief of pyorrhea, bleeding gums, loose teeth, and gum boils. He wants you who suffer try his home treatment free, so that once again you may know the pleasure of a healthy mouth. The treatment will whiten your teeth, destroy film and germs, strengthen gums, rout pus pockets, banish gum boils and trench mouth, stop bleeding gums and improve your general health. The treatment is used at home and the free trial is sent without a cent of cost. It will help you just as it has thousands of others who have told us of their benefits. PYORRHEA SUFFERERS SEND THIS COUPON FOR FREE TRIAL.
Dr. Cheek's Laboratories, 705-J. N., 11th St., St. Louis, Mo.
Name Chas. Hen... Cam...
Address 7/24/23

remover," and some laxative tablets. The mouth wash was, apparently, typical of its class, containing alcohol, glycerine, cresol, zinc chloride and the usual flavoring—thymol, eucalyptus, spearmint, etc.—colored with carmine and cudbear, and sweetened with saccharine.

While the "treatment" purported to come from "Dr. Cheek's Laboratories," which the letterheads described as "manufacturing chemists," there were no laboratories nor manufacturing chemists. The equipment was essentially that of the usual mail-order office. The products sold were purchased from a local drug house.

The advertising literature put out by these people abounded with references to "Dr. Cheek," without the suffix "D.D.S." or the word "dentist." Symptom blanks and report forms were used, and according to the admission of George W. Brendel, who ran the thing, the intent was to give the impression that the statements filled in by purchasers of the "treatment" would be given attention by a physician, and that the business was directed by a physician. The facts were that the "doctor" referred to in this Missouri concern's advertising was a dentist who was located in Indiana and gave the so-called symptom blanks no attention whatever, all the correspondence being handled by printer Brendel and his sister, neither of whom had any dental or medical training.

The government, in its case against this concern, brought out the fact that the so-called pyorrhea cure would not cure pyorrhea, remove pus pockets or restore loose teeth, as claimed; it would not cure cases which had been found to be incurable, as was also claimed, and the "treatment" did not contain the "twelve most effective specifics known to medical science." As a result, Solicitor Horace J. Donnelly, in his Memorandum to the Postmaster-General, recommended the issuance of a fraud-order against the Dr. Cheek's Laboratories and Dr. J. H. Cheek, president. The order went into effect July 12.

Correspondence

STOMATOLOGY

To the Editor:—In THE JOURNAL, May 4, appeared an article entitled "Stomatology," by A. Le Roy Johnson, D.M.D. This article constitutes an argument for a change in the method of conducting dental practice and in the education of dentists. In this article, he presents many statements regarding dentistry as it is practiced today, together with statements regarding the dental needs of the public as recognized today. Many of the statements he makes are of facts whose truth is admitted by all: other statements are open to question as to their accuracy. The important point is that the conclusions he draws are not acceptable to the dental profession as a whole, which is, despite Dr. Johnson's implication, sincerely interested in giving its patients that which will best serve both oral and general health.

The dangerous thing about Dr. Johnson's article is not the statement of undoubted facts but the implication that, from the conditions thus recited, certain eventualities inevitably follow. A reader of this presentation who happens not to be intimately acquainted with the phenomena of dental, periodontal and oral disease may well be pardoned if he becomes convinced by Dr. Johnson's arguments that training in the biologic aspects of dentistry can be given effectively only as a part of the *medical* curriculum, and that, what is still more important, such training will provide for the public the kind of oral health service it needs.

Possibly the most convincing arguments on the subject of a division of dentistry into a small group of prescribing "stomatologists" trained in conventional medicine, and a large group of prescription filling "dentists" trained in dental schools, as advocated by Dr. Johnson, would be those developed by informed persons from without the medical and dental professions. Fortunately, such a thesis is at hand in bulletin 19 of the Carnegie Foundation for the Advancement of Teaching: Dental Education in the United States and Canada, by William J. Gies, Ph.D. The observations bearing on the present question may be summed up in following quotation from the preface by Henry S. Pritchett, president of the foundation (pages xvi-xvii):

> The practice of health service as applied to the teeth and the adjacent tissues cannot be divided between stomatologists as prescribers, on the one hand, and dental technicians as mechanical experts, on the other, in a manner analogous to this distribution of duties between the oculist and the optician, for the reason that the actual practice of dentistry must be in the mouth itself and requires a union of medical knowledge, technical skill and mechanical precision not called for in other specialties of medicine.

In agreement with these conclusions, by far the larger number of dental educators in this country are convinced that dentistry

must continue along the lines already laid down, if the knowledge and application of biologic principles fundamental to general well being are to be developed in an orderly and effective manner.

JOHN OPPIE MCCALL, D.D.S., New York.
Professor of Periodontia,
New York University College of Dentistry.

TREATMENT OF BURNS WITH NORMAL HORSE SERUM

To the Editor:—I have found the article by Drs. Monteith and Clock, entitled "The Treatment of Burns with Normal Horse Serum" (THE JOURNAL, April 6, p. 1173), to be extremely interesting as it represents new evidence against the improper use of antiseptics still advocated by many practitioners.

In regard to the originality of the horse serum method, however, I should like to state that since 1918 we have been using it consistently in all cases of atonic ulcers, phagedenic ulcers, burns, cuts and ulcus molle, always with the most encouraging results, and that this method has since become rather generalized in this section of Brazil. In the *Memorias do Instituto Butantan* (part 2 **1**, 1918-1919) I published the final results of my own observations on the application of dried horse serum (which I think for obvious reasons to be superior to liquid serum) to ulcerations in general.

AFRANIO DO AMARAL, M.D., DR.P.H.,
São Paulo, Brazil.
Instituto Butantan.

Queries and Minor Notes

UNDULANT FEVER

To the Editor:—In THE JOURNAL, March 16, in an article on undulant fever by A. V. Hardy of Iowa City, it is stated that cultural results were positive only when the culture medium was sent to the physician and he inoculated it with the patient's blood and incubated it for four days before sending it to the laboratory. He does not mention the nature of the medium used. If you can find this out for me, I shall be greatly obliged to you.

W. K. TERRIBERRY, M.D., Bayonne, N. J.

ANSWER.—In isolating *Brucella melitensis* from the blood stream, the culture medium used is a fresh liver infusion broth. This is prepared according to the formula described by Dr. I. F. Huddleson (*J. Infect. Dis.* **40**:352 [Feb.] 1927). The details of the method must be observed and followed closely.

For subcultures, a fresh liver infusion agar is used. There is now available a dehydrated medium prepared especially for the cultivation of *Brucella melitensis* variety *abortus*. This is fairly satisfactory.

PROGNOSIS IN TUBERCULOUS SALPINGITIS

To the Editor:—A woman, aged 31, was operated on in December, 1922, with postoperative diagnosis of tuberculous peritonitis. The appendix was removed and the abdomen closed. During the following year she apparently recovered her health. She married. In the autumn of 1923 she sailed for West Africa, where she remained most of the time until September, 1928, when she became ill and returned to America with what appeared to be some form of subacute pelvic inflammation. She was operated on in November, 1928. At operation, bilateral tubal abscesses with fixation of the uterus in the posterior position were found. Naked eye evidences of tuberculosis were not present. The adhesions were loosened, both tubes were removed, and suspension of the uterus was performed. At the present time she appears to be enjoying quite good health. What is the probable health outlook for this patient? How risky would return to West Africa be? Please omit name.

M.D., Chicago.

ANSWER.—The outlook for the patient's health should be good unless the removed tubes were tuberculous. In this event, trouble may arise because in nearly three fourths of all the cases of tuberculous salpingitis the uterus shows tuberculosis and in about one third of the cases the ovaries are tuberculous. In spite of these figures, many patients who have tuberculous salpingitis and have only their tubes removed remain well indefinitely as far as their genital organs are concerned. A return to West Africa would not be risky because the tubal inflammation would most likely have arisen anywhere else.

TRANSMISSIBILITY OF TERTIARY SYPHILIS

To the Editor:—What is the modern theory and experience regarding the transmissibility of syphilis when of the definitely tertiary type—this excluding the hereditary phase? Is it likely or possible for a man, aged 74, who contracted the disease in early youth and who has had no symptoms since that time, but who has a four plus blood Wassermann reaction, to transmit the disease directly? What of the tabetic, the cyclitis case, the aortic disease, the gumma case? Can any distinction be made between the patient who has been treated but not cured and one who had no treatment? Please omit my name.

M.D., Michigan.

ANSWER.—In the case of a man, aged 74, who contracted syphilis in his early youth and has had no symptoms since that time but who had a four plus blood Wassermann reaction, the possibility of transmission of syphilis through him can be practically excluded. Long experience shows that five years after infection cases of syphilis have almost lost their infectivity. The spirochetes by this time, even in active cases, are located in isolated lesions and their number is so few in these tertiary lesions that the chances of transmission of syphilis through such lesions is practically nil. This applies to all sorts of cases.

POSSIBILITY OF TYPHOID FROM INFECTED WATER DRUNK BY COWS

To the Editor:—There is a spring of water in Brent, Ala., that is infected with typhoid germs. Cows are drinking this water every day. Is there any danger of people drinking this milk having typhoid?

W. J. NICHOLSON, M.D., Centreville, Ala.

ANSWER.—Since domestic animals do not suffer from typhoid and since it has been shown that the germs of this disease die out quickly in the alimentary tract of cattle, the danger that the cow will become infected and so infect the milk can be ruled out. On the other hand, typhoid germs might conceivably find their way into milk from the outside of udders that have been in contact with sewage-polluted water or through the agency of flies. In other words, it would not seem wise to allow milk-producing animals to come in contact in any way with water known to contain typhoid bacilli. As is well known, milk is an excellent medium for the growth of these germs.

PRESCRIPTION OF THYROID AND PITUITARY SUBSTANCE

To the Editor:—A consultant has recommended (by letter) 1/10 grain of desiccated thyroid and 2 grains of pituitary substance. 1. Are these given together? 2. Is there any special way in beginning their use? 3. What is the general frequency of dosage? 4. Does the patient require any special supervision while taking the remedies? The case seems to be a polyglandular case. The consultant gives no directions, just suggests trying the mixture.

M.D., New Jersey.

ANSWER.—1. They may be given together.
2. No.
3. Three times daily after meals.
4. Yes: for signs of hyperthyroidism.

BARBITAL AS ANTIDOTE TO COCAINE USED IN TONSILLECTOMY

To the Editor:—1. Is barbital considered the chemical antidote in toxic conditions following the use of topical applications of cocaine and the injections of procaine hydrochloride (novocain)? I have often heard it stated that, in local tonsillectomy if the patient is given from 7 to 15 grains of barbital one hour preceding the local anesthetic, there have been no ill effects seen in the way of intoxication. 2. What in your opinion is the safest preoperative medication for local tonsillectomy, giving dosage according to size and age? What do you consider the best percentage of cocaine and procaine to be used in local tonsillectomy work? Please omit name.

M.D., Mississippi.

ANSWER.—1. A considerable number of operators use barbital half an hour or an hour before operations under local anesthesia, and possibly undesirable results are thereby prevented. There are not enough reports to state definitely that barbital is an absolute antidote for cocaine poisoning.

2. Although in some clinics cocaine has been used submucously in a dilute solution without apparently any bad effects, nevertheless its use submucously is dangerous and unnecessary. The direct application of cocaine in various concentrations to the mucosa of the throat and tonsils is of little avail except so far as it may lessen the pharyngeal reflex. When applied directly to the tonsils themselves it has little effect, as they are rather insensitive to pain anyway. It is the traction that is put on them when they are grasped with tenaculum or other forceps that causes pain. A solution of procaine hydrochloride or similar solutions in 0.5 per cent or 1 per cent strength, either by infiltration of the mucosa about the tonsils or injection to block the nerve supply, gives excellent anesthesia, usually without toxic symptoms. When proper infiltration or nerve blocking is done, cocaine is certainly not necessary for tonsillectomy, and since many individuals have a definite idiosyncrasy for this drug

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it is better to avoid its use except in those instances in which the pharyngeal reflex is exceedingly active. In these cases swabbing the posterior wall of the pharynx and the base of the tongue with a 5 or 10 per cent solution is usually sufficient to lessen the reflex, but care should be taken that the applicator is simply moist and not dripping, otherwise some of the solution may flow into the pharynx and be swallowed.

TREATMENT OF CRAMPING IN LEGS AFTER PUERPERAL THROMBOPHLEBITIS

To the Editor:—A woman, aged 45, complained of swelling and pain and a cramping sensation in the muscles of the left leg, extending to the knee. Physical examination was essentially negative except for internal and external hemorrhoids. She stated that ten years before, immediately following delivery, she had chills and fever and swelling of the left leg. She was unable to walk for about three months and ever since that time has had this swelling and pain and cramps. Is there any form of treatment that might give relief from a condition that has existed so long? Please omit name.

M.D., Illinois.

ANSWER.—The history and present symptoms indicate with certainty that the patient had puerperal infection with marked involvement of the pelvic veins. Thrombophlebitis of the left leg presented but a small part of the pathologic changes that complicated labor. It is probable that the patient still has some infection of the deep cellular tissues of the pelvis and that there is thrombosis of some of the pelvic veins and passive congestion and enlargement of others. The first step should be careful abdominovaginal and abdominorectovaginal examination of the pelvis. There may be a condition that is amenable to surgical correction, which would relieve materially the present discomfort. Many of these patients are not good subjects for operation. Nonsurgical measures of value include sunbaths, other light therapy, massive hot wet packs, and general restorative measures such as carefully regulated diet and closely supervised management of elimination and avoidance of fatigue.

DANGER OF COAGULATED BLOOD IN INTRAVENOUS THERAPY

To the Editor:—Before solutions are injected into a vein, some blood is allowed to flow into the syringe. At times this blood seems to coagulate in the solution. Yet it never caused any trouble in my experience. Is it safe to continue the injection when the blood looks clotted within the syringe? If not, how would you prevent coagulation in such solutions as sulpharsphenamine and sodium iodide? Please omit name.

M.D., Sonora, Mexico.

ANSWER.—The needle of small caliber ordinarily employed for intravenous injection does not permit the introduction of clots of sufficient size to do harm.

CHOLECYSTECTOMY

To the Editor:—1. Please advise how well patients get along after the removal of the gallbladder. 2. Do they have as good health after the removal as before? What do the statistics show as to how long a patient has lived after the removal of the gallbladder? 3. Do they suffer with "bilious spells" any more than before the removal? 4. Would a patient stand as good a chance for life with an obstruction preventing the bile from entering the bladder, as he would if the bladder was removed? 5. If there was an obstruction preventing the bile from entering the bladder, would it be safe to remove the obstruction if possible and leave the bladder in?

R. R. WRIGHT, M.D., Heflin, Ala.

ANSWER.—1. The loss of a gallbladder, whether normal or pathologic, does not impair digestion or health. It has been demonstrated, experimentally and clinically, that cholecystectomy causes a compensatory enlargement of the common duct. It is assumed that the latter structure to some extent takes on the bile-storing function of the gallbladder.

2. Removal of the gallbladder was a relatively rare operation previous to twenty-five years ago, but many patients have been followed for twenty years or more.

3. Biliousness is not increased by the removal of the gallbladder. The large majority of patients (approximately 75 per cent) are cured of this symptom by cholecystectomy. Persistence of biliousness may occur in long-standing infections with widespread involvement at the bile tracts, or when stones in the duct are left behind.

4. When bile cannot enter the gallbladder, the cystic duct is obstructed. Such gallbladders cause attacks of colic and fever. Such a condition is incompatible with health and necessitates cholecystectomy.

5. The common cause of cystic duct obstruction referred to is stone, stricture or both. It is usually difficult to remove such an obstructing stone because of impaction. Even if this were possible, however, it would be inadvisable to leave behind such a gallbladder because it will almost surely give further trouble. Cholecystectomy is the only logical procedure in these cases.

DIAGNOSIS AND TREATMENT OF ASCITES

To the Editor:—I have a puzzling case on which I should like to get some light as to diagnosis, prognosis and treatment. A married woman, aged about 36, with children, two years ago began to develop a swelling around the ankles with purpuric spots on the legs and considerable pain in the legs. It was then thought that the condition was purpura rheumatica. Gradually, with remissions, the swelling in the legs increased until the legs were twice their normal size and the swelling extended up to the ribs. The swelling was brawny with lymphangitis and looked like elephantiasis. The heart and kidneys were normal. Autogenous vaccines did no good. Two months ago I did an exploratory incision. A milky fluid ran out and the abdomen was filled with this chyle. Following this all the swelling went out of the legs and abdomen and the patient could get around well until a few days ago, when the swelling began to return. One nocturnal examination was made for the presence of *Filaria sanguinis-hominis*, which was negative. It now looks as if the condition is beginning to return.

JOHN F. NOOE, M.D., Boerne, Texas.

ANSWER.—It would seem that a clue to the cause of this condition might be found by a consideration of the causes of chylous ascites. The total disappearance of the edema of the legs following laparotomy, with the resulting drainage of the ascitic fluid, would indicate that increased intra-abdominal pressure causes the leg edema.

Reference to the literature on chylous and pseudochylous ascites shows numerous causes of these conditions. Wallis and Schölberg (*Quart. J. Med.* **3**:301, 1910; **4**:153, 1911) present the results of a careful examination of pseudochylous fluids and point out that a complete chemical and physical examination is necessary to differentiate with certainty chylous and pseudochylous fluids. They give a synopsis of previously recorded cases manifesting these conditions. Of the 173 cases which they compiled, seventy-one were probably pseudochylous. The chief morbid changes found in the 173 cases include:

Tumors:
- Carcinoma of the abdominal organs (stomach, ovary, pancreas, peritoneum, large intestine, gallbladder, uterus).
- Carcinoma of the pleura.
- Sarcoma of the abdominal organs (ovary, mesentery, pelvis).
- Lymphadenoma and lymphangioma.

Infections:
- Tuberculosis (peritonitis, pulmonary, general miliary and lymphatic).
- Chronic peritonitis.
- Syphilis.
- Cellulitis.

Diseases of the thoracic duct and lymphatic system:
- Obstruction of the thoracic duct by:
  - Thrombosis.
  - Growths.
  - Duct cancer.
- Rupture of the thoracic duct.
- Compression and distention of the lymphatics or chyle vessels.
- Trauma.

General diseases:
- Cirrhosis of the liver.
- Nephritis.
- Amyloid disease.
- Morbus cordis.
- Thrombosis of the blood vessels.

In both the pseudochylous and the chylous varieties, morbid changes were common in the groups of tumors, infections and general diseases, but of the forty-one instances of diseases of the thoracic duct and lymphatic system all but three, and of ten instances of thrombosis of the blood vessels all were in cases of chylous ascites. Fifteen per cent of the patients with chylous ascites, and 8.4 per cent of those with pseudochylous ascites recovered.

Outland and Clendening (THE JOURNAL, June 10, 1916, p. 1833) report a case of chylous ascites and chylothorax due to carcinoma of the lesser curvature of the stomach with enlargement of the glands of the gastrohepatic mesentery, and give a review of the literature.

Huber and Silver (*Am. J. Dis. Child.* **8**:50 [July] 1914) refer to an exhaustive monograph by S. Gandin (*Ergebn. d. inn. Med. u. Kinderh.* **12**:219, 1913) in which the different types of chylous effusion are discussed. They differentiate three types of milky ascites: (1) true chylous, due to presence of chyle; (2) chyliform or fatty, which owes its milky appearance to emulsified fat, the result of fatty degeneration of cellular elements, and (3) a type in which the opalescence is not due to the presence of fatty emulsion but of an opalescent substance, the exact nature of which has not been determined. They state that true chylous ascites is due to escape of chyle from the thoracic duct or receptaculum chyli, the result of trauma or disease processes, malignant or benign. They mention among the reported causes of true chylous ascites: rupture (by trauma or result of disease processes) in some portion of the chylous system; mechanical obstruction in any part of the course of the thoracic duct from the receptaculum chyli to the left subclavian vein, or in some of the tributaries in the mesentery, the result of cicatricial contractions, new growths, cysts or tumors, which

may give rise to stasis and transudation through the weakened and dilated vessels. The chyliform ascites is not due to leakage of chyle but to the formation of fat in the effusion and is usually associated with intra-abdominal new growths or chronic peritonitis, simple or tuberculous. These authors report a case of the third type in a boy, aged 8 years, presenting large glands in the mesentery.

TREATMENT OF GONORRHEAL ARTHRITIS

To the Editor:—A patient of mine, a married woman, aged 21, was suffering with acute gonorrheal arthritis of the right elbow. I treated her with mixed gonorrheal vaccine and fixation with plaster of paris. Local treatment to the existing endocervicitis is being carried on. The inflammation in the elbow is now entirely gone but there remains a fibrous ankylosis. The joint has been quiet now for six weeks. Would it be safe to break up the fibrous anykylosis under ether anesthesia? How would intramuscular injection of fibrolysin (solution thiosinamine sodium salicylate) affect the condition? Is diathermy indicated in this case? Kindly give me the benefit of anything helpful in the way of treatment you know of. The arm is ankylosed in a position of semiflexion or the position of greatest usefulness. Please use initials only.

M.D., Pennsylvania.

ANSWER.—It would be safe and advisable, under ethylene, very gently to flex and extend the elbow once, and only once. When elbows are used as pump handles, injuries are caused to the joint structures which result in more numerous adhesions than existed previously.

Diathermy, baking, massage and gentle active and passive movements are indicated. These cases are resistive as a rule. It requires persistence on the part of the patient and the physician before a good result is accomplished.

Typhoid vaccine intravenously used as nonspecific protein is often more valuable than gonorrheal vaccine.

OPERATION FOR HYPOSPADIA

To the Editor:—Kindly advise whether an operation for glandular hypospadia is usually successful. At what age should this be done? Please omit name.

M.D., Georgia.

ANSWER.—Glandular hypospadia is the simplest form of this defect because the urethra is intact up to the glans and does not require the building of a new urethra. Operation consists in freeing or mobilizing the urethra in its proximal portion so that it may be drawn out and sutured to the end of the glans, or as near the end as is feasible without undue tension. The operation is usually successful and should be done at about the eighth to the tenth year when the parts are large enough to work with easily.

TREATMENT OF HEMOPHILIA DURING PARTURITION

To the Editor:—I have a patient who will probably come into labor about August 15. This patient is, if I may coin a word, a partial bleeder. Her father had pronounced hemophilia and where in this case the tendency has crossed the gender it has not skipped a generation as, I believe, is the usual way. She has only a little more than normal hemorrhage when she has a tooth extracted or when she cuts or scratches herself. However, about nine years ago I attended her in her first confinement and the hemorrhage was almost uncontrollable at that time. To guard against such a condition this time, I talked with the senior obstetrician of Memorial Hospital of Worcester, Mass., regarding the good of goat or rabbit serum given at intervals during the last month of pregnancy. He said that he thought this would be of much help and suggested that in addition I use a full dose of hemostatic serum just as labor really started and another full dose just as soon as the child was delivered but before the placenta and membranes were removed. I have tried to get either the goat or the rabbit serum from several of the better known houses dealing in biologic products and have been unable to get either of them. I can get normal horse serum but am a little doubtful about using this. Could you tell me where I could get either the goat or the rabbit serum or would you think that a different line of treatment should be used in this case?

H. A. BROWN, M.D., Whitinsville, Mass.

ANSWER.—Instead of giving rabbit, goat or horse serum, it is more advisable to administer human whole blood or serum, not only because the latter are easier to secure but also because they have given excellent results in the condition ascribed to this patient. It is simpler to use whole blood, which may be obtained from the patient's husband. From 15 to 20 cc. of blood may be injected every five or six days during the last month and a half of pregnancy. Large doses of calcium lactate may be given by mouth in addition.

The patient's blood should be grouped and matched so that a donor may be on hand during labor, should transfusion be necessary. At the time of labor, ampules of pituitary solution and ergotamine should be handy and also gauze for packing and an aorta compressor. As soon as the child is born, pituitary solution should be administered and, immediately after the placenta is expelled or expressed, ergotamine should be given. If there is any undue bleeding, the uterus should be packed tightly without delay.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALASKA: Juneau, Sept. 3, 1929. Sec., Dr. Harry C. Devighne, Juneau, Alaska.

NATIONAL BOARD OF MEDICAL EXAMINERS: Examination to be held in all class A medical schools, Sept. 16-18, 1929. Executive Secretary, Everett S. Elwood, 225 South Fifteenth Street, Philadelphia, Pa.

NEW HAMPSHIRE: Concord, Sept. 12-13, 1929. Sec., Dr. Charles Duncan, Concord, N. H.

OKLAHOMA: Oklahoma City, Sept. 10-11, 1929. Sec., Dr. J. M. Byrum, Shawnee, Okla.

PORTO RICO: San Juan, Sept. 3, 1929. Sec., Dr. D. Biascoechea, Box 804, San Juan, Porto Rico.

Delaware June Examination

Dr. Harold L. Springer, president of the Medical Council of Delaware, reports the oral and written examination held at Wilmington, June 18-20, 1929. The examination covered 10 subjects and included 100 questions. An average of 70 per cent was required to pass. Nine candidates were examined, all of whom passed. Four candidates were licensed by reciprocity. The following colleges were represented:

PASSED College	Year Grad.	Per Cent
Georgetown University School of Medicine	(1927)	84.3
Hahnemann Medical College and Hospital of Philadelphia, Homeopathic	(1927) 85.4, (1928) 86.1, 88, 90.6, 92.1	
Jefferson Medical College of Philadelphia	(1928)	84.4, 87.4
University of Pennsylvania School of Medicine	(1928)	83.4

LICENSED BY RECIPROCITY College	Year Grad.	Reciprocity with
Johns Hopkins University School of Medicine	(1925)	Maryland
Long Island College Hospital, Brooklyn	(1928)	New York
Jefferson Medical College of Philadelphia	(1928)	N. Carolina
Temple University School of Medicine, Philadelphia	(1915)	Maryland

Hawaii April Examination

Dr. James A. Morgan, secretary, Hawaii Board of Medical Examiners, reports the written examination held at Honolulu, April 8-11, 1929. The examination covered 10 subjects and included 55 questions. An average of 75 per cent was required to pass. Two candidates were examined, one of whom passed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent
University of Texas School of Medicine	(1924)	82.1
FAILED		
University of St. Thomas College of Medicine	(1920)	47.9

Kansas June Examination

Dr. Albert S. Ross, secretary, Kansas Board of Medical Registration and Examination, reports the written examination held at Kansas City, Kan., June 18-20, 1929. The examination covered 10 subjects and included 100 questions. An average of 75 per cent was required to pass. Sixty-two candidates were examined, all of whom passed. Eleven candidates were licensed by reciprocity. The following colleges were represented:

PASSED College	Year Grad.	Per Cent
Northwestern University Medical School	(1928) 85.1, 85.8, (1929) 86.2, 88.3, 91.1, 92.1	
University of Kansas School of Medicine	(1928) 83.3, 83.6, 83.9, 85.3, 85.4, 85.4, 86.2, 86.2, 86.2, 86.2, 86.4, 86.6, 86.7, 86.8, 86.9, 86.9, 87.1, 87.1, 87.4, 87.8, 87.8, 87.9, 88, 88.2, 88.2, 88.4, 88.4, 88.4, 88.6, 89.2, 89.4, 89.5, 89.7, 89.7, 90.7, 92.3	85,
St. Louis University School of Medicine	(1928) 83.4, (1929) 84.1, 86.9	
University of Nebraska College of Medicine	(1929) 85.8, 86, 86.2, 87.9	
Creighton University School of Medicine	(1928)	85.5,
(1929) 84.9, 85.1, 85.7, 86, 86.1, 86.5, 86.5, 87, 87.1		
University of Pennsylvania School of Med.	(1928) 86.8, (1929)	84.6

LICENSED BY RECIPROCITY College	Year Grad.	Reciprocity with
University of Arkansas School of Medicine	(1927)	Arkansas
University of Colorado School of Medicine	(1927)	Colorado
Loyola University School of Medicine	(1919)	Illinois
University of Kansas School of Medicine	(1911)	Missouri
University of Michigan Medical School	(1924)	Michigan
St. Louis University School of Med.	(1926) Missouri, (1927)	Iowa
University of Oklahoma School of Medicine	(1928)	Oklahoma
Jefferson Medical College of Philadelphia	(1928)	Missouri
Vanderbilt University School of Medicine	(1926)	Tennessee
Fort Worth School of Medicine, Medical Department of Texas Christian University, Fort Worth	(1903)	Oklahoma

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Book Notices

CHILDREN'S BEHAVIOR AND TEACHERS' ATTITUDES. By E. K. Wickman. Cloth. Price, $2. Pp. 247. New York: Commonwealth Fund Division of Publications, 1928.

It is suggested in a foreword that this book might equally well be entitled "How Teachers Behave When Children Misbehave." It might also be called "How Teachers Misbehave When Children Misbehave." Obviously the keyword here is behavior and, since behavior is itself not a fixed form of conduct but a proper form of conduct in response to certain conditions, governed by the form of conduct of the mass, one finds in the book a general textbook on behavior problems. The chapter headings indicate the nature of the discussion: Development of an experimental study of teachers' attitudes toward children's behavior; the teachers' list of undesirable forms of behavior; the incidence of troublesome behavior in school children—as reported by teachers; the problem child in school as identified by teachers; teachers' reactions to behavior problems of children; differences in the attitudes of teachers and mental hygienists; a description of behavior problems in terms of social requirements; the significance of teachers' attitudes; reeducation in attitudes. The conclusion of this study is that firmly established habits of discipline are not easily modified, and, since teachers as adults have firmly established habits, it is going to be much harder to correct the misbehavior of teachers than that of children.

INDIA IN 1927-28. By J. Coatman, Director of Public Information, Government of India. A statement prepared for presentation to Parliament in accordance with the requirements of the 26th Section of the Government of India Act (5 & 6 Geo. V. Chap. 61). Boards. Price, $1.50. Pp. 461, with illustrations. Calcutta: Government of India, Central Publication Branch, 1928.

Here is an official publication telling everything that one ought to know about India before attempting to evaluate the factors of government, either British or local, before trying to comment on Indian problems of health or culture. The various chapters cover every phase of Indian life and provide statistics of inestimable value. The book is not, however, a dry official report but is well written as a running account, elaborated with maps and with figures, and indeed with metaphor and simile. The fourth chapter is of especial medical interest since it discusses medical aid, care of women and children, education, drink and drugs, prohibition and similar subjects.

PATHOLOGY FOR STUDENTS AND PRACTITIONERS. Authorized Translation of the "Lehrbuch der pathologischen Anatomie." By Dr. Edward Kaufmann, Professor of General Pathology and Pathological Anatomy, University of Göttingen. Translated by Stanley P. Reimann, M.D., Pathologist and Director of the Research Institute of the Lankenau Hospital. In three volumes. Cloth. Price, $30 per set. Pp. 2452, with 1072 illustrations. Philadelphia: P. Blakiston's Son & Company, 1929.

Here is a well established textbook, long recognized for its merits of sound presentation of the subject, translated and modified for American readers. The review of such a work offers a problem of varying natures to any reviewer. It includes, first, a consideration of the qualities of the original work; secondly, a consideration of the quality of the translation; thirdly, a consideration of the modifications and editions by the translator, and fourthly, a comparison of the work of the American publisher with that of the foreign publisher.

The work is now in its eighth edition in German and therefore has an established position in its field. It presents pathology as a living as well as a dead subject. The manifestations of disease are seen in the living and are related to signs and symptoms. It is important that the student correlate the objective appearances at the postmortem table with the processes of disease in the patient. This correlation is ever in the foreground in Kaufmann's work. The translator has given us an English text which is in good literary style, and he has added to the extremely fine illustrations of Kaufmann some hundreds of his own and of his colleagues which are a real addition to the work. The chief adverse criticism to be made of this work applies to the editing. The numerous parenthetical interjections, sometimes words, sometimes phrases, rarely whole sentences, split up the text and make continued reading as difficult as a hurdle race. The reader is hardly in his stride before he is diverted by a parenthetical reference of one form or another. The bibliographic references thus interjected are in most cases incomplete, often confusing.

The American publisher has done well his portion of the work. The books are well bound and are printed on fine stock, and the illustrations, which do not seem in any sense of the word excessive, are sharply delineated. Adequate indexes make consultation of the individual volumes as well as of the complete work relatively easy.

ENZYKLOPAEDIE DER KLINISCHEN MEDIZIN. Herausgegeben von L. Langstein, C. von Noorden, C. Pirquet, und A. Schittenhelm. Spezieller Teil. Avitaminosen und verwandte Krankheitszustände. Herausgegeben von W. Stepp, und P. György. Paper. Price, 66 marks. Pp. 817, with 194 illustrations. Berlin: Julius Springer, 1927.

This book is a special volume of the encyclopedia of clinical medicine issued by the German publisher Julius Springer. It is a complete survey of our knowledge of vitamins and the diseases brought about by their absence. The section of pellagra by Lavinder of the U. S. Public Health Service reflects the Goldberger conception up to the time when he advocated full nutrition but before the specific recommendation of yeast. However, this section of the book, as well as each of the others, recapitulates fully not only the exact knowledge of the various avitaminoses but all of the false conceptions that were brought forward before the solutions were found. The Japanese conception of beriberi is well reflected as it existed up to the time of publication of the book. The great difficulty of encyclopedic publication in this field is the fact that our knowledge moves so rapidly that even monographs are dated at the time of their publication and this book, far from being a monograph, contains 817 pages. The really useful knowledge of the subject could certainly be covered in one-tenth the space.

RACIAL HYGIENE: A Practical Discussion of Eugenics and Race Culture. By Thurman B. Rice, A.M., M.D., Associate Professor of Bacteriology and Public Health, Indiana University School of Medicine. Cloth. Price, $4.50. Pp. 376, with 58 illustrations. New York: Macmillan Company, 1929.

Dr. Rice has an established name as one who writes with interest for the general reader on matters of preventive medicine. In this book he attempts the impossible; namely, the presentation of the knowledge of genetics or of the science of heredity in terms understandable by the average layman. At the same time he submits his own views on many social problems in which eugenics and heredity enter as prime factors. The first four chapters, which form an introduction to the subject, are well written and easily readable. The fifth and sixth chapters, on the cell and the mendelian law, are probably simple in the mind of the author but not at all understandable by people who have had no fundamental training in biology. Thereafter the author considers problems of special inheritance, marriage laws, emigration and immigration and similar subjects from the point of view of eugenics and the dominance of the white race. This material is interesting, conservative, perhaps even narrow, but invariably well presented. Dr. Rice's book is about as good a presentation of its subject and of his views on the subject as could probably be made.

DIABETES AND ITS TREATMENT. By Frederick M. Allen, M.D., Director of the Physiatric Institute, Morristown, New Jersey. The National Health Series edited by the National Health Council. Cloth. Price, 30 cents. Pp. 98. New York: Funk & Wagnalls Company, 1928.

CARE OF THE MOUTH AND TEETH. By Harvey J. Burkhart, D.D.S., LL.D., Director, Rochester Dental Dispensary, Rochester, New York. The National Health Series edited by the National Health Council. Cloth. Price, 30 cents. Pp. 45, with illustrations. New York: Funk & Wagnalls Company, 1928.

WHAT EVERY ONE SHOULD KNOW ABOUT EYES. By F. Park Lewis, M.D., F.A.C.S., Vice-President, National Society for the Prevention of Blindness. The National Health Series edited by the National Health Council. Cloth. Price, 30 cents. Pp. 70, with illustrations. New York: Funk & Wagnalls Company, 1928.

These three additional numbers of the National Health Series, planned by the National Health Council and the Funk and Wagnalls Company to provide the general public with authoritative books on health at low cost, are well up to the standard of previous numbers in the series. The books are easily carried, the type is sufficiently large to be read without strain, the material in the books is concise and accurate. The authors

vary naturally in their abilities to present their subjects for a public audience and in literary ability in general. Nevertheless the editing has been such as to remove any crudities from all of the volumes. As a library on health, the entire series can be recommended. The reader who possesses one of these books which may have for him a special interest will find the others in the series well up to the one he has.

HANDBUCH DER NORMALEN UND PATHOLOGISCHEN PHYSOLOGIE MIT BERÜCKSICHTIGUNG DER EXPERIMENTELLEN PHARMAKOLOGIE. Herausgegeben von A. Bethe, G. v. Bergmann, G. Embden, und A. Ellinger. Band VIII, 2 Hälfte: Energieumsatz. 2 Teil: Elektrische Energie. Lichtenergie. Bearbeitet von M. Cremer, W. Einthoven, M. Gildemeister, P. Hoffmann, usw., usw. Paper. Price, 42 marks. Pp. 657-1095, with 207 illustrations. Berlin: J. Springer, 1928.

The first half of the volume was reviewed May 28, 1927, p. 1752. This half is devoted to a discussion in extenso of electrobiology, including the passive-electric phenomena in the animal and plant kingdom; currents of rest and action currents of muscle and nerve, electricity by the skin and glands, action currents in plants, electrical organs, the cause of electrical phenomena, and development of light in plants and animals. Of particular interest to physicians is the seventy-eight page chapter on the electrocardiogram by the late W. T. Einthoven. Every internist will be interested in and find this chapter invaluable in a study of his cardiac cases; for this pioneer in electrocardiography has discussed comprehensively not only the normal but also the pathologic aspects of the subject.

CLINICAL INVESTIGATIONS INTO THE PATHOGENESIS OF INFANTILE TETANY. By Paul Drucker. Paper. Pp. 198, with illustrations. Copenhagen: Levin & Munksgaard, 1927.

This is a review of the pathogenesis of infantile tetany. The author discusses the various theories as well as the clinical manifestations. He points out that infantile tetany is confined almost exclusively to artifically fed children in the first two years of life and is most commonly encountered in the late winter and early spring months, thus showing a definite seasonal variation. He recognizes, what is commonly stated in the textbooks and affirmed by clinicians, that tetany may be manifest or latent. The manifest form is characterized by eclampsia, laryngeal spasm and carpopedal spasm, while the latent form is detected by the facial phenomenon, or Chvostek's sign, by Trousseau's phenomenon and by Erb's sign. The author recognizes the fact that the clinical details of infantile tetany have been clearly stated and that the symptomatology and diagnostic signs have been sufficiently elucidated to render recognition and clinical description of the disease a finished chapter in nosology. Quite different is the situation with the pathogensis and etiology. Clinicians have long since recognized that cow's milk, particularly the whey, tends to produce the disorder. More recently, chemical studies of the blood have shown that the serum calcium is diminished. The administration of guanidine or of alkalis tends to produce active symptoms of tetany. In the same way, if the reaction of the blood becomes excessively alkaline for any reason, symptoms of tetany may occur. Pathologists have long since pointed out that removal of the parathyroid gland will usually cause tetany.

Turning his attention to the pathogenesis of infantile tetany, Drucker takes up the much discussed theory of alkalosis of Freudenberg and György. This theory attempts to explain tetany as a result of alkalosis of the blood and tissues. Alkalosis develops because there is a diminished formation of acids in the intermediary metabolism. As a result of the diminished acidity there occurs a failure of neutralization and the alkalis supervene. As a further consequence, calcium fails to be ionized and thus it is apparent that the alkalinity of the blood increases and the calcium is diminished. In short, this is the alkalosis theory of tetany. In an attempt to associate the diminished calcium with the clinical manifestation, it is stated that the presence of calcium ions is necessary in order to prevent excessive muscular and nervous irritability. The increased alkalinity of the blood at the same time prevents the liberation of the calcium ions.

Drucker, in this monograph, has made it his principal object to test out the alkalosis theory of Freudenberg and György. In addition, he has attempted to determine whether hyperventilation tetany, gastric tetany and tetany produced by the excessive ingestion of alkalis are really due to a shift in the reaction of the blood toward the alkaline side as well as to a decrease in the amount of ionized calcium in the blood. After considerable experimentation, Drucker could not confirm the work of Freudenberg and György that an alkaline metabolism definitely occurs in infantile tetany. He thinks that the diminished acid formation in the tissues, which György associated with the occurrence of alkalosis followed by tetany, may be explained by the fact that György used a diet relatively poor in protein and consequently the tissues were deficient in acid production. Drucker found, furthermore, that, in a number of children who were fed on a diet rich in protein, no deviation in the excretion of inorganic or organic acids could be observed. In studying the urine of these children and the ammonium excretion, he concluded that neither the reaction of the urine nor the excretion of ammonia bore any constant or definite relation to tetany. Indeed, Drucker fails to be convinced by his experiments that tetany is due to a reaction of the blood in the alkaline direction. He recognizes that tetany in all probability depends on a decrease in the number of calcium ions in the blood, but he doubts that the hypocalcemia is due to the alkaline reaction of the blood. He presents twenty-nine case histories with clinical descriptions of tetany manifestations and he goes into some detail to illustrate the response to various therapeutic methods. The author of this monograph has done an interesting piece of work, though he has torn down Freudenberg and György from roof to foundation. All that remains is the fact that tetany cannot occur without hypocalcemia. If Freudenberg and György do not at this point show that Drucker is in error, some one with a genius for chemical experimentation must tell each of them and all of us who is right.

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GYNECOLOGICAL DIAGNOSIS. By Arthur Hale Curtis, Professor and Head of the Department of Gynecology, Northwestern University Medical School. Cloth. Pp. 136, with 98 illustrations. Philadelphia: W. B. Saunders Company, 1929.

Here in small scope is a direct simple outline of gynecologic diagnosis ideal for the uses of the general practitioner. Each section is fully illustrated with photomicrographs and drawings, and there is a bibliography of suggestive reading for those who wish to extend their knowledge of any special phase of the subject. Italics are used to emphasize major points, and the proper distribution of headings and subheadings provides orderly consideration instead of confusion. The material contained in this book will not make a general practitioner a competent gynecologist but it will help him to make diagnoses and to avoid the pitfalls in this field that constantly confront him.

THE COMPARATIVE PHYSIOLOGY OF MUSCULAR TISSUE. By A. D. Ritchie, M.A., Lecturer in Chemical Physiology in the Victoria University of Manchester. Cloth. Price, $3. Pp. 111. New York: Macmillan Company, 1928.

It is doubtful whether, at present, this book would interest any clinician except the neurologist researching in neuromuscular physiology. The book contains lucidly written discussions on the general character of muscular tissue, on the chemical changes in active muscle, on the mechanics and theory of muscular contraction, and on the effect of environment. In these discussions the author does not presuppose any previous knowledge except some general biologic training. The growth in our knowledge of the physiology of the muscle cell is developed with great clarity along historical lines. The development is obviously brief. Direct reference to an excellent bibliography makes the volume valuable to any one wishing to go into details. The book is therefore invaluable to the teacher and a handy tool for the investigator of this field of physiology.

LES ACCIDENTS DE LA CHOLÉCYSTECTOMIE. Les plaies du pédicule hépatique. Leurs causes. Une technique pour les éviter. Par Serge Huard, aide d'anatomie des hôpitaux. Préface du Docteur Anselme Schwartz, professeur agrégé à la Faculté de médecine de Paris. Paper. Price, 16 francs. Pp. 116, with 17 illustrations. Paris: Masson & Cie, 1929.

This is a brief monograph dealing with the usual accidents that occasionally complicate operations on the bile passages, such as wounds and accidental ligation of the hepatic and common ducts, injuries to and ligations of the hepatic artery, cutting of anomalous ducts, and hemorrhage. There is also a brief dissertation on anatomic anomalies.

ANNUAL REPRINT OF THE REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR 1928 WITH THE COMMENTS THAT HAVE APPEARED IN THE JOURNAL. Paper. Price, $1. Pp. 75. Chicago: American Medical Association, 1929.

This volume, published annually, gives in full the reasons for the Council's rejection of medical preparations which it has found unacceptable for inclusion in its book, New and Nonofficial Remedies, during the preceding year. Included also are any special reports made by the Council. These may be (1) preliminary reports on new medicinal preparations not yet past the experimental stage, (2) inquiries into the present status of any particular form of drug therapy, or (3) reports on any matter concerned with the advance of rational drug therapy.

In the present volume, among the reports on products that have been denied admission to New and Nonofficial Remedies are those on Sanarthrit and Telatuten, two preparations of animal tissue, of indefinite composition, proposed for use in arthritis and arteriosclerosis, respectively; on Clauden, a combination of lipoids and undefined proteins, proposed for use as a hemostatic; on Hart's Alimentary Elixir of Beef, a liquid medicinal food "fortified" with glycerophosphates; on Alucol, claimed to be colloidal aluminum hydroxide and marketed under this nondescriptive name; on Oxo-Ate and Oxo-Ate B, claimed to be the ammonium and calcium salts, respectively, of ortho-iodoxybenzoic acid and marketed under these proprietary, nondescriptive names; on Terpezone, stated to be pinene ozonide and marketed with exaggerated and unwarranted therapeutic claims; on Vitalipon, an unscientific and indefinite mixture of lipoids claimed to be extracted from "vegetable and animal embryonic organs"; on Kalak Water, a solution containing sodium bicarbonate with many other ingredients of questionable utility marketed under a nondescriptive name; on Eu-Med, Aerosan Tablets and Thyangol Pastilles, three shotgun mixtures from Germany.

Among the preliminary reports are those on Metrazol, which has now been admitted to New and Nonofficial Remedies; on Phenylaminoethanol Sulphate, a newly synthesized ephedrine substitute; on Ovarialhormon Folliculin Menformon, the ovarian preparation originated by Dr. Laqueur of Amsterdam; and on Heparmone, a liver preparation.

The special report dealing with dextrose solutions containing cresol and intended for intravenous administration is worthy of mention as an example of the Council's activity in the matter of advancing knowledge and clearing up problems concerning the therapeutic use of drugs.

JUDGMENT AND REASONING IN THE CHILD. By Jean Piaget, Doctor of Science, Director of the Institut Rousseau and Professor at the University of Geneva. Translated by Marjorie Warden. Cloth. Price, $3.75. Pp. 260. New York: Harcourt, Brace & Company, 1928.

This volume is written obviously for the experimental psychologist, particularly in the field of comparative psychology. The conclusions of the author present the results of the investigations elaborated through some 250 pages of text: "It is therefore our belief that the day will come when child thought will be placed on the same level in relation to adult, normal, and civilized thought as primitive mentality as defined by Levy-Bruhl, as autistic and symbolical thought as described by Freud and his disciples, and as 'morbid consciousness', in the event of this last concept, which we owe to M. Ch. Blondel, being eventually identified with the former. But we must beware of the danger of drawing parallels in which functional divergencies are forgotten."

COMMUNICABLE DISEASES: For Nurses and Mothers. By Albert G. Bower, M.D., and Edith B. Pilant, R.N. With foreword by Elizabeth F. Miller, R.N. Cloth. Price, $3 net. Pp. 327, with 34 illustrations. Philadelphia: W. B. Saunders Company, 1929.

Nurses purchase tremendous numbers of books. Whereas only four or five thousand physicians are graduated annually, about eighteen thousand nurses leave the training schools each year. Publishers therefore feel the necessity of a complete line of books especially for this trade. Most nurses' textbooks seem to be books for the physician condensed and but slightly modified. Nurses are provided with a vast amount of information in their textbooks. It is safe to say that nurses would be quite competent in medical practice if they knew everything in the textbooks that are provided for them. Probably the same might be said for the physician. However, the physician supplements his books with laboratory training and with actual medical attendance on patients, whereas the nurse serves primarily as an aid to the physician.

The introduction here given would serve as a review of almost any book in the nursing field. The amount of information is far beyond the requirements of the nursing profession. For instance, should the nurse learn that the treatment of malta fever is entirely symptomatic, "Aspirin or pyramidon may relieve the fever and headache. Cool sponges and enemas may be of assistance. Luminal, luminal sodium, or bromidia may be used for nervousness and insomnia. When severe vomiting occurs, chloretone, cereum oxylate in chalk mixture and even ⅛ grain of cocaine by mouth may all be of service in different cases." Like Moran and Mack, even if that was true I wouldn't like it!

This book on infectious diseases is merely a somewhat condensed disquisition from various works on the practice of medicine and on infectious disease. It has in it most of what a nurse should know on the subject but it has also so much more than she needs to know that it defeats its purpose.

Medicolegal

Pneumonia or Trauma

(Prudential Insurance Company of America v. Grant (Ky.), 10 S. W. (2d) 1073)

An insurance policy on the life of Grant provided for the payment of $2,000 in the event of his death, with an additional $1,000 if death resulted directly and independently of all other causes from bodily injury through external, violent and accidental means. Grant fell from the top of a freight car and shortly thereafter died. The insurer paid the $2,000 provided for in the policy, but resisted the payment of the additional $1,000. His widow thereupon brought suit and obtained judgment. The insurer appealed to the court of appeals of Kentucky, which reversed the judgment and remanded the case for further proceedings.

Grant was discovered a few minutes after he fell and was immediately sent to a hospital. There the physician discovered an abrasion on Grant's side and was convinced that ribs had been broken, so he applied bandages. The side soon became discolored, tending to show that it had been severely bruised. Grant continued to grow worse until his death, about forty-four hours after the fall. In the trial court, at the conclusion of the evidence, the judge directed the jury to return a verdict for the plaintiff for $1,000, the amount sued for, which was payable only in event of death by accident. The main question on appeal was whether the judge should have directed the verdict, or submitted the case for determination by the jury. According to the record, Grant died of pneumonia. The only question at issue was whether that pneumonia was or was not caused by the fall. If there was any conflict of evidence on this point, said the court, the question should have been submitted to the jury, under proper instructions. Dr. Combs testified in the course of the trial that Grant had a cold and was coughing when he first saw him after the accident and was suffering from shortness of breath. A few hours later his condition had grown worse, and Dr. Combs thought that pneumonia was impending. Traumatic *(sic!)* pneumonia, Dr. Combs testified, when it appears as promptly after the injury as it did in this case, is not ordinarily the result of an injury. He did not know, however, whether the injury in this case was the cause of the pneumonia. In view of the fact that there was at least some evidence that the pneumonia may not have been caused by the accident, the question should have been submitted to the jury.

Gunshot Wounds and Expert Testimony

(State v. Gruber (Wash.), 272 Pac. 89)

Lulu Ethel Gruber was convicted of murder in the second degree, and appealed to the supreme court of Washington. The appellant named, among the other errors attributed to the court, the admission of the evidence of a physician, a deputy coroner,

as to the distance from which the fatal shots were fired. This witness had had considerable experience in examining gunshot wounds to determine how they were inflicted. He testified that in his judgment one of the shots was fired from a distance of 1 foot and that the other shots were fired at a "much greater distance," basing his opinion on his view of the wounds and the clothing through which the shot entered, of smoke and powder marks around the bullet holes, and of the shape of the holes in the clothing and the body. The appellant contended that this evidence related to a subject matter not provable by expert opinion. The appellate court held, however, that the evidence was properly admitted as opinion evidence tending to show that the shots were fired into the body from varying distances, which was a material inquiry, particularly in view of the appellant's defense of justifiable homicide.

The appellant contended further that the court erred in permitting another witness to testify as to the results of experiments made by him by firing the revolver from which the shots were fired. This witness was experienced in the use of fire arms and had made a special study of the effect on various substances of firing into them at certain various distances, particularly as to smoke marks and as to the nature and shape of the holes made by the entry of the shots. He fired from varying distances into pieces of cloth of substantially the same make and texture as that worn by the deceased, pieces of cardboard and pieces of wood, using ammunition that the trial judge was warranted in concluding was substantially of the same make and character as the ammunition with which the fatal shots were fired. The objection to the admission of evidence as to the results of these experiments was based on the hypothesis that they were not shown to have been attended by conditions substantially similar to those that attended the firing of the fatal shots into the body of the deceased. The appellate court concluded, however, that the trial judge exercised sound discretion in determining from the preliminary evidence presented to him that the conditions were sufficiently similar for the purpose of making a just comparison between the results of the experiments and the results of the fatal shots on the clothing and body. The trial court was fully warranted in regarding this witness as an expert and made no error in receiving his testimony.

"Accidental Means" and "Accidental Result" Differentiated

(Pope v. Prudential Insurance Co. of America (C. C. A. Ohio), 29 F. (2d) 185)

The plaintiff was the beneficiary of a policy on the life of her husband, issued by the defendant insurance company. The policy provided that in the event of the insured's death, the beneficiary was to receive $20,000 and double that amount if the death were the result, directly and independently of all other causes, of bodily injuries effected through external violence and accidental causes. The husband underwent an operation for the removal of a kidney stone. The pedicle was found to be extremely short and the stone in an unusually inaccessible place. When the stone was removed, the kidney replaced and the pedicle clamps removed, there was an immediate severe hemorrhage from the vein, which could not be stopped and from which the husband died. The insurance company paid the ordinary liability and contested the payment of the double liability, whereupon the plaintiff brought suit in the United States district court for the southern district of Ohio. This court decided for the defendant and the plaintiff brought error to the circuit court of appeals, sixth circuit.

The plaintiff urged that in putting the clamps on the vein there may have been an accidental puncture and that this would constitute an "accidental cause" within the meaning of the policy. It was not impossible, the court said, that the death did occur from this cause; but there could be nothing more than a surmise since there was no substantial evidence to support it and if it were the only tenable theory of recovery the case would be one in which the jury is not permitted to speculate on the existence of a basis for its findings. The court assumed, as established, that the death was the result solely of a rupture of an undiseased vein, and that because the pedicle was so short and the necessary lift so great, the rupture could not with all due precaution and skill have been avoided. It was undisputed that this element of danger is inherent in every such operation and that the surgeon, understanding this, did only what he intended to do and with the technic which he intended to use.

Such a death, the court said, may in a very proper sense be termed an accidental death. There is a substantial distinction, however, between an accidental result and the result of an accidental cause. The court said:

> We think it not only to be the natural meaning of the words, as they would be understood by the ordinary policy holder, but the right construction thereof, supported by the weight of authority, that when the insured or those acting with his consent did precisely what they intended to do and in the way which they intended, knowing that injury often did result and might be unavoidable, and where there was no slip or misstep in the performance, and where there was no ignorance of any material factor, this conduct cannot be said to have been the accidental cause of the injury which unfortunately may follow.

The court differentiated the present case from the case of *Aetna Co.* v. *Brand* (C. C. A. 2) 265 F. 6, 13 A. L. R. 657 and the case of *Mutual Co.* v. *Dodge* (C. C. A. 4) 11 F. (2d) 486. In the first case a surgeon's needle, used as he intended under conditions which he supposed existed, pierced an artery that was abnormally located, the existence of which at that point he had no reason to suspect; in the second case, the patient had a hypersusceptibility to procaine hydrochloride, "an idiosyncrasy so rare that the danger of its existence was professionally regarded as negligible." In each case the unknown condition brought fatal results and to the extent that the intended and otherwise harmless act encountered these conditions, its performance was perhaps accidental. In the present case, the court said, the condition which developed was known to be not uncommon and there was full purpose to assume whatever risk of accidental result there might be if this dangerous condition were found to exist. The court of appeals, therefore, held that the death was not the result of accidental causes and affirmed the judgment of the district court in favor of the defendant.

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Society Proceedings

COMING MEETINGS

American Association of Obstetricians, Gynecologists and Abdominal Surgeons, Memphis, Tenn., September 16-18. Dr. James E. Davis, 1825 Geddes Avenue, Ann Arbor, Mich., Secretary.

American Child Health Association, Minneapolis, September 30-October 4. Dr. Philip Van Ingen, 125 East 71st Street, New York, Secretary.

American Electrotherapeutic Association, Indianapolis, September 9-13. Dr. C. E. Vinton, Guildersleeve Ave., Rosedale, New York, Secretary.

American Pharmacological Society, Boston, August 19-23. Dr. E. D. Brown, University of Minnesota Medical School, Minneapolis, Secretary.

American Physiological Society, Boston, August 19-21. Dr. W. J. Meek, University of Wisconsin Medical School, Madison, Secretary.

American Public Health Association, Minneapolis, September 30-October 4. Mr. Homer N. Calver, 370 Seventh Avenue, New York, Secretary.

American Roentgen Ray Society, New York, September 17-20. Dr. John T. Murphy, 421 Michigan Street, Toledo, Ohio, Secretary.

American Society for Experimental Pathology, Boston, August 19-23. Dr. Carl V. Weller, 1020 Ferdon Road, Ann Arbor, Mich., Secretary.

American Society of Biological Chemistry, Boston, August 19-23. Dr. D. W. Wilson, University of Pennsylvania Medical School, Philadelphia, Secretary.

Association of Military Surgeons of the United States, Denver, Colorado, September 26-28. Dr. J. R. Kean, Army Medical Museum, Washington, D. C., Secretary.

Central States Pediatric Society, Milwaukee, September 27-28. Dr. H. T. Price, Westinghouse Building, Pittsburgh, Secretary.

Colorado State Medical Society, Greeley, September 3-5. Dr. F. B. Stephenson, Metropolitan Building, Denver, Secretary.

Federation of American Societies for Experimental Biology, Boston, August 19-23. Dr. Carl V. Weller, 1020 Ferdon Road, Ann Arbor, Mich., Secretary.

Indiana State Medical Association, Evansville, September 25-27. Mr. T. A. Hendricks, Hume-Mansur Building, Indianapolis, Executive Secretary.

Michigan State Medical Society, Jackson, September 17-19. Dr. F. C. Warnshuis, G. R. National Bank Building, Grand Rapids, Secretary.

National Medical Association, Newark, N. J., August 26-30. Dr. W. G. Alexander, 136 West Kinney Street, Newark, N. J., Secretary.

Nevada State Medical Association, Elko, September 27-28. Dr. H. J. Brown, Box 688, Reno, Secretary.

Pacific Association of Railway Surgeons, Reno, Nevada, August 23-24. Dr. W. T. Cummins, Southern Pacific General Hospital, San Francisco, Secretary.

Pennsylvania, Medical Society of the State of, Erie, September 30-October 3. Dr. Walter F. Donaldson, 500 Penn Avenue, Pittsburgh, Secretary.

State Medical Society of Wisconsin, Madison, September 10-13. Mr. J. G. Crownhart, 119 E. Washington Ave., Madison, Executive Sec'y.

Washington State Medical Association, Yakima, September 3-5. Dr. Curtis H. Thomson, 1305 Fourth Avenue, Seattle, Secretary.

Current Medical Literature

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Titles marked with an asterisk (*) are abstracted below.

American Heart Journal, St. Louis

4: 499-632 (June) 1929

*Ventricular Rate in Auricular Fibrillation Studies with Cardiotachometer. E. P. Boas, New York.—p. 499.
*Oral Administration of Calcium Chloride in Congestive Heart Failure. H. J. Stewart, New York.—p. 512.
Mechanism of Relatively Short Intervals in Ventriculo-Auricular and Auriculoventricular Sequential Beats During High Grade Heart Block. C. C. Wolferth and T. M. McMillan, Philadelphia.—p. 521.
*Electrocardiographic Changes in Diphtheria. R. M. Stecher, Cleveland. —p. 545.
*Ventricular Fibrillation: Relation to Heart Block. D. Davis and H. B. Sprague, Boston.—p. 559.
*Development of Abnormal Complexes of Electrocardiogram in Coronary Occlusion. N. S. Moore and J. R. Campbell, Jr., New York.—p. 573.
*Occurrence of Coronary T Wave in Rheumatic Pericarditis. D. Porte and H. E. B. Pardee, New York.—p. 584.
Auricular Blood Supply in Dog. W. J. Meek, M. Keenan and H. J. Theisen, Madison, Wis.—p. 591.
Buffer Function of Diaphragm and Cardio-Abdominodiaphragmatic Syndrome. N. P. Rasumov and A. B. Nicolskaja, Moscow, Russia.—p. 600.
*Toxic Manifestations of Barium Chloride in Patient with Complete Heart Block. S. P. Schwartz, New York.—p. 612.
Paroxysmal Tachycardia in Course of Active Subacute Bacterial Endocarditis: Case. A. N. Foxe, New York.—p. 615.

Ventricular Rate in Auricular Fibrillation Studies with Cardiotachometer.—The ventricular rate of patients with auricular fibrillation was studied by Boas by means of the cardiotachometer. It has been shown that the ventricular rate is variable; that it accelerates in response to the slightest exertion or emotion, and that it slows during rest and particularly during sleep. All the evidence indicates that the ventricular rate in these patients is under control of the cardiac nerves and that alterations in rate are governed by neurogenically determined changes in the conductivity of the specific conducting tissue of the heart. The changes in ventricular rate arise, apparently, in response to the varying physiologic needs of the body just as in health, but the reaction is not so well regulated and is often excessive. Patients with auricular fibrillation may be classed in two groups: those with labile and those with stable ventricular rates. The former are high-strung and nervous and correspond to patients with neurocirculatory asthenia. Their ventricular rates tend to be rapid, and quantities of digitalis in excess of the body weight dose are required to keep the ventricular action slow and stable. In addition, it would seem that sedative and psychotherapeutic treatment should assist materially in slowing the ventricles. In the stable group the ventricles do not exhibit such an exaggerated response to physical and emotional stimuli and can readily be kept under control by the usual methods of digitalis therapy. The value of rest and sleep in the treatment of patients with auricular fibrillation is forcefully demonstrated by actual count of the number of heartbeats by means of the cardiotachometer.

Oral Administration of Calcium Chloride in Congestive Heart Failure.—Calcium chloride was administered by Stewart orally to six patients suffering from heart failure in whom edema was present. All patients were subjected to a preliminary period of rest in bed. They were given a fixed amount of fluid daily. These conditions were maintained during the administration of calcium chloride. It was given as a concentrated solution, divided into two doses, 15 Gm. usually being given daily. It was followed by a small amount of orange juice for relief of the bitter taste. After taking calcium chloride patients complained occasionally of a burning sensation in the epigastrium or of abdominal cramps. These symptoms were not severe. One patient vomited on one occasion and another on two occasions. Other untoward symptoms were not encountered. In some observations calcium chloride was given alone; in others it was given to patients who had first received a sufficient amount of digitalis to affect the T wave of the electrocardiogram or to slow the ventricular rate in auricular fibrillation. In still further observations, the administration of calcium chloride was followed by that of digitalis. A few patients were the subjects of the three sets of observations. Most of the patients were those to whom other diuretics had been given without effect. An increase in the output of urine following the administration of calcium chloride was observed. Diuresis was never very marked, and in only two patients was it effective in decreasing edema.

Electrocardiographic Changes in Diphtheria.—Nineteen cases of complete heart block occurring in diphtheria were studied by Stecher electrocardiographically. All terminated fatally. Heart block in diphtheria probably results from a toxic action on the conduction system which renders it functionally inactive or from an irritation of the ventricular muscle which results in the setting up of an independent ventricular rhythm with a rate faster than that of the auricles. The two effects may occur simultaneously. Some of the effects of diphtheria on the cardiac mechanism simulate closely the toxic effects of digitalis. The opinion that digitalis is contraindicated in diphtheria is substantiated.

Ventricular Fibrillation.—A case of rheumatic heart disease with syncopal attacks and death is reported by Davis and Sprague with clinical, electrocardiographic and autopsy observations. Electrocardiographic study showed the mechanism in the heart, during unconsciousness, to be a probable circus movement in the ventricles, of the nature of flutter or fibrillation, associated with auriculoventricular dissociation and auricular fibrillation or standstill. The patient had received both digitalis and quinidine sulphate in moderately large doses. The possible influence of these drugs in initiating ventricular fibrillation by depression of the His-Purkinje system is discussed. Patients with combined auriculoventricular and intraventricular block are particularly liable to ventricular circus rhythm if the conducting tissues are further depressed by digitalis or quinidine. On theoretical grounds the use of quinidine to restore normal rhythm in auricular fibrillation would seem to be safer when it is not administered in combination with, or directly following, digitalis. This conclusion is more definite when intraventricular block is present.

Abnormal Complexes of Electrocardiogram in Coronary Occlusion.—Moore and Campbell report a case that exhibited the signs and symptoms which accompany occlusion of a coronary artery. Certain changes also occurred in the electrocardiograms. If these curves are arranged in serial fashion, the alterations which are observed illustrate the evolution of the "coronary T wave" in the manner that Parkinson and Bedford proposed in their scheme; that is to say, the monophasic, intermediate and diphasic stages which they described can be detected. No other series of records was discovered in the literature on this subject which illustrate these stages so exactly.

Occurrence of Coronary T Wave in Rheumatic Pericarditis.—Three patients have been observed by Porte and Pardee whose electrocardiograms showed an abnormality of the T wave which is practically identical with that described as resulting from coronary narrowing, or following an infarction. These cases were all associated with a rheumatic pericarditis. This abnormality of the T wave is characterized by a downwardly directed T wave with the R-T or S-T interval showing an upward convexity, which lies either at the zero level of the record or above it.

Toxic Manifestations of Barium Chloride in Complete Heart Block.—Schwartz reports the case of a man, aged 50, with complete heart block who, after the administration of 60 mg. of barium chloride, showed within several hours an irregular acceleration of the ventricles with alarming symptoms of extreme breathlessness and signs of circulatory collapse, all of which cleared up with the elimination of the drug.

American J. Medical Sciences, Philadelphia

178: 1-156 (July) 1929

*Apparent Adaptability of Body to Infections, Unusual Hardships, Changing Environment and Prolonged Strenuous Exertion. B. Gordon and J. C. Baker, Philadelphia.—p. 1.
*Bronchoscopic Findings in Lobar Pneumonia. P. N. Coryllos, New York.—p. 8.
*Size of Consolidated Lung in Lobar Pneumonia. P. N. Coryllos and G. L. Birnbaum, New York.—p. 15.
*Carcinomatous Abscess of Lung. M. Fishberg and E. H. Rubin, New York.—p. 20.
*Diabetes Mellitus Showing Aglycemia Without Symptoms. C. A. Peters and I. M. Rabinowitch, Montreal, Canada.—p. 29.
*Complications and Fatality of Typhoid Among Filipinos. P. T. Lantin and P. Ignacio, Manila, P. I.—p. 32.
*Effect of Gastro-Intestinal Operations on Emptying of Gallbladder. C. E. Pope, Rochester, Minn.—p. 48.
Comparison of Arsphenamine and Catarrhal Jaundice: Blood Picture. J. Lerman, Boston.—p. 54.
*Serologic Studies of Proteinurias: III. Precipitin Test as Adjunct in Diagnosis and Prognosis of Nephritis. R. M. Tandowsky, Salt Lake City.—p. 63.
*Blood Sedimentation Test in Experimental Poliomyelitis. J. R. Kagan, Boston.—p. 67.
*Temporary Edema of Face Following Treatment for Exophthalmic Goiter. W. O. Thompson and P. K. Thompson, Boston.—p. 73.
Distinction Between Metabolic and Nervous Symptoms in Thyroid Disorder. G. M. Goodwin, New York.—p. 83.
*Exophthalmos Following Operation for Relief of Hyperthyroidism. L. M. Zimmerman, Chicago.—p. 92.
*Acute Thyroiditis. J. M. Mora, Chicago.—p. 99.
*Ophthalmoscopic Signs in Disease of Heart: 137 Cases Verified by Necropsy. W. M. Yater, Washington, D. C., and H. P. Wagener, Rochester, Minn.—p. 105.
*Brucella Abortus in Milk Supply as Source of Agglutinins in Human Serums. M. J. King and D. W. Caldwell, Mount McGregor, N. Y.—p. 115.

Adaptability of Body to Infection, Hardships, Changing Environment and Strenuous Exertion.—A study of 199 participants in a transcontinental foot race was made by Gordon and Baker to determine the qualifications for successful competition and the effects of prolonged daily exertion. A marked difference was noted in the age, nationality, physical development, experience in running and habits of food consumption. The race was characterized by almost every violation of accepted principles of diet, hygiene and disregard for injuries, infection and human endurance. The chief causes for withdrawal were so-called shin splints, financial difficulties and lack of interest in the contest. So far as determined there were only seven instances of exhaustion and these appeared to result from the lack of training and physical capacity evident before the start of the race. It appeared that a high caloric intake, derived from all foods, was more important than any fixed dietetic regimen. The most successful runners consumed readily available carbohydrate between meals, followed an unrestricted high caloric diet at meal time and ingested meat at the evening meal. The details of a complete physical examination made three days after the finish of the race are tabulated. Abstracts from correspondence with runners eight months after the return to normal life are recorded. The data suggest that the comparatively normal human body, provided with adequate food and rest, may acquire during prolonged exercise unusual capacity for work apparently without serious untoward effect.

Bronchoscopic Observations in Lobar Pneumonia.—Bronchoscopic examination made by Coryllos in nine cases showed that in every case the bronchus corresponding to the consolidated area was occluded, and circulation of air was shut off. This the author feels tends to support the hypothesis that lobar atelectasis and lobar pneumonia are due to the same mechanism, namely, the occlusion of a bronchus. Aspiration of the occluding exudate did not produce in lobar pneumonia the same result as in simple atelectasis. Although the mortality of the patients in whom bronchoscopy was done was 33.3 per cent, whereas that of the patients admitted in the same ward at the same short time in whom it was not done was 72 per cent, no conclusion can be drawn from this fact so far as a curative effect of this procedure is concerned, not only because the number of the cases in which bronchoscopy was done is so far very small, but also because the less toxic cases were taken for bronchoscopic investigation. Two facts only have been proved: the occlusion to the air of the bronchus corresponding to the consolidated area in human lobar pneumonia and the innocuousness of a correctly performed bronchoscopy in cases of pneumonia.

Size of Consolidated Lung in Lobar Pneumonia.—Coryllos and Birnbaum assert that the size of the affected lobes in lobar pneumonia, contrary to the generally accepted opinion, is smaller than that of the healthy lobes. The enlargement of the consolidated lung is only apparent and is due to the collapse of the healthy lung when the thoracic cavity is opened. In order to appreciate the true sizes of the consolidated and healthy lobes it is necessary to clamp the trachea and then to open the chest with only the minimum manipulation of the healthy lobes. The decreased size of the pneumonic lobe, as shown by roentgenologic and postmortem studies, points to a similar pathogenesis in pneumonia and atelectasis. These points being definitely proved for the dog need further confirmation for the human being.

Carcinomatous Abscess of Lung.—Fifteen cases of primary cancer of the lung are reported by Fishberg and Rubin in which clinically and at the necropsy table excavations were found. It appears that in about one third of the cases of neoplastic disease of the lung the abscess breaks down, leaving a cavity after the necrotic tissue is eliminated. It is emphasized that such patients with excavated carcinoma of the lung often present the seemingly typical symptomatology, physical signs and even roentgenoscopic appearance of abscess of the lung. In fact, the simulation of the clinical picture of pulmonary abscess may last for many months. In all instances of apparently primary abscess of the lung of recent onset in elderly persons, the possibility of broken-down neoplasm is to be borne in mind.

Diabetes Mellitus Showing Aglycemia Without Symptoms.—A case of diabetes mellitus showing aglycemia without symptoms is reported by Peters and Rabinowitch. Absence of dextrose in the blood after the administration of insulin was proved by the determination of the reducing substances of the blood before and after fermentation. In view of repeated observations by other authors of hypoglycemia without symptoms, and in view of the present case, it is suggested that though hypoglycemia is an important factor, probably the most important, in the production of the train of symptoms following an overdose of insulin, it is probably not the only factor involved.

Complications and Fatality of Typhoid Among Filipinos.—Of the complications occurring in different organs in 3,255 cases of typhoid in Filipinos analyzed by Lantin and Ignacio, the pulmonary complications head the list, constituting 14 per cent; alimentary tract, 13 per cent; severe toxemia, 10 per cent; cardiovascular, 7 per cent; kidney, 2 per cent; gallbladder, liver, 1 per cent; nervous system, 0.5 per cent; bone (osteoperiostitis 1, osteomyelitis 1), 0.06 per cent; genital (orchitis 1, vulvovaginitis 1), 0.06 per cent, and other complications, 3 per cent. In the occurrence of particular complications, the intestinal hemorrhage was the most frequent, constituting 10.3 per cent; severe toxemia, 9.9 per cent; acute myocarditis, 6.7 per cent; lobar pneumonia, 4.4 per cent; bronchopneumonia, 4.1 per cent; pulmonary congestion, 2.5 per cent; acute bronchitis, 2 per cent; asthenia, 1.3 per cent; acute nephritis, 1.2 per cent; intestinal perforation, 1.2 per cent; acute cholecystitis, 1 per cent. All other complications were less than 1 per cent apiece. Of 3,255 cases, 2,547 (78.25 per cent) occurred between the ages of 11 and 30. The great majority of deaths occurred in the age groups from 11 to 30 (535 cases, representing 85.4 per cent of the total 626 terminating fatally. The average fatality rate in the series, covering a period of sixteen years and ten months, is 19.2 per cent. This compares favorably with various statistics observed in the temperate climates. There is considerable yearly variation in the fatality rate of this disease (from 7 to 28.1 per cent). Often the robust, the strong and the young adults succumb to typhoid infections, in contrast with the more frequent survival of those that are less strong constitutionally.

Effect of Gastro-Intestinal Operations on Emptying of Gallbladder.—A series of experiments was carried out by Pope on dogs to determine whether the standard clinical types of operations carried out on the stomach would affect the emptying of the gallbladder which follows the ingestion of a fat meal.

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It was found that the gallbladder gave the normal response to the ingestion of a fat meal following various standard gastric operations.

Precipitin Test as Adjunct in Diagnosis and Prognosis of Nephritis.—It appears from the study made by Tandowsky of urines which present protein chemically that the precipitin test offers a possible adjunct as a diagnostic and prognostic agent in the nephritides. The data obtained tend to support the view that relegates the chronic interstitial type of nephritis to a noninflammatory classification and support the idea that in certain cases of nephritis a protein of nephritic origin is present in the urine. The antigen prepared from inflammatory kidney substance seems to contain sensitive bodies that are apparently lacking in an antigen prepared from nonpathologic kidney substance. The urines giving negative precipitin reactions were apparently free from nephritic protein. The protein which they contain had evidently taken origin from sources other than the kidney. It appears from this study that the presence of protein in the urine in the vast majority of cases takes origin from tissue sources other than the kidney.

Blood Sedimentation Test in Experimental Poliomyelitis.—The sedimentation time for normal healthy monkeys was determined by Kagan and found to be nineteen hours and thirty-two minutes. The sedimentation time of monkeys with poliomyelitis is considerably shorter, giving an average of two hours and thirty-nine minutes, and showing a marked difference from the sedimentation time of normal monkeys. The sedimentation time for monkeys with tuberculosis, general debility of undetermined nature and superficial infection is still shorter, namely, one hour and twenty minutes.

Temporary Edema of Face Following Treatment of Exophthalmic Goiter.—Nine cases are presented by the Thompsons in which temporary edema of the face occurred following treatment for exophthalmic goiter. The nature of this edema is discussed.

Exophthalmos Following Operation for Relief of Hyperthyroidism.—Eight cases are reported by Zimmerman in which thyroidectomy for the relief of hyperthyroidism was followed by the development of exophthalmos. If some exophthalmos was present at the time of operation, it increased materially afterward. In every case the patients were completely relieved of their symptoms of hyperthyroidism, and the basal metabolic rate was brought to normal or below by the surgical removal of the gland. In three of the patients the eye change was limited to one eye; in the remainder it was bilateral. Conjunctivitis, chemosis and edema of the lids frequently accompanied the exophthalmos. The postoperative exophthalmos developed with a falling basal metabolic rate, was associated in most instances with subnormal metabolism and sometimes with frank myxedema, and was not accompanied by any other symptom of hyperthyroidism. Thyroid medication or the withholding of it seemed to have no effect on the ocular changes. No definite explanation is here offered for this apparently paradoxical phenomenon, though pertinent observations are discussed.

Acute Thyroiditis.—Eight cases of acute thyroiditis are recorded by Mora, of which three were suppurative. They occurred mostly in the third decade, and were equally divided as to sex and color. Antecedent infection had been present in five, goiter in three.

Ophthalmoscopic Signs in Disease of Heart.—A series of 137 patients with heart disease who had had their ocular fundi examined and who came to necropsy were studied by Yater and Wagener to determine the value of ophthalmoscopy in the diagnosis and prognosis of heart disease. The series included a fairly representative group of each of the main types of heart disease. Only three types of changes in the fundi relevant to the cardiac disease were observed, and only one of these was pathognomonic; namely, the embolic lesions in subacute bacterial endocarditis. The other two types of changes, although not pathognomonic of heart disease, are of value in diagnosis and prognosis. These are the two main types of retinal arteriosclerosis, the hypertension type, with or without associated retinitis, and the senile type, both of which are found in association with hypertension. About 90 per cent of patients with heart disease who have hypertension show some degree of retinal arteriosclerosis. About 96 per cent of patients with heart disease due to hypertension alone show retinal arteriosclerosis of the hypertension type. About 92 per cent of patients with heart disease due mainly to coronary sclerosis have retinal arteriosclerosis of either the hypertensive or the senile type. In any case of heart disease in which there is retinal arteriosclerosis of either the hypertension or the senile type, therefore, hypertension or coronary sclerosis may be of importance in reference to the cardiac failure. Conversely, in any case of heart disease in which retinal arteriosclerosis is not present, the heart disease is usually not due to either hypertension or coronary sclerosis. If a patient with cardiac disease and hypertension, and without evidence of toxic goiter or endocarditis, has retinal arteriosclerosis of the senile type, he probably has coronary sclerosis of severe degree. The presence of retinitis, of benign or malignant hypertension type, in heart disease indicates severe arteriolar disease due to hypertension and warrants a more serious prognosis than the same grade of retinal arteriosclerosis alone. Ophthalmoscopic examination yields negative results in cases of heart disease unless the heart disease is due to or associated with hypertension or coronary sclerosis, or subacute bacterial endocarditis. In subacute bacterial endocarditis, the presence of embolic lesions or petechiae in the retina is practically pathognomonic.

Brucella Abortus as Source of Agglutinins in Human Serum.—Of 851 patients and 156 staff members in a sanatorium using raw milk, ninety-one, or 9 per cent, showed abortus agglutinins when their serums were diluted 1:15 or higher. Twenty-four of the ninety-one had agglutinin titers varying from 1:45 to 1:3,200. King and Caldwell assert that the presence of abortus agglutinins in human serum is evidence of infection with *Brucella abortus*. The agglutinins may persist in the serum for months or years after recovery of the patient. There is complete lack of evidence of porcine infection in the herd supplying the milk used by the persons reported on here. The correlation between the periods of *Brucella abortus* infection of the milk supply and the occurrence of agglutinins in the serums of the patients indicates a bovine origin of the cases of undulant fever reported in this study. *Brucella abortus* may be present in small numbers in the milk of infected cows but the organisms may be eliminated for several years. The presence of *Brucella abortus* agglutinins in the blood serum of cows does not determine whether they are discharging *Brucella abortus* in their milk. In a herd of 151 animals, no evidence was obtained of the infection of the milk of cows whose serums agglutinate at 1:60, while cultures of *Brucella abortus* were obtained from the milk of only twenty-three cows out of fifty-six with titers of 1:120 or higher. *Brucella abortus* was not isolated from the blood or from the urine of the infected cows.

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American J. Public Health, New York

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*Nutritive Value of Ice Cream. L. S. Palmer, St. Paul.—p. 601.
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Outlook for Mortality Statistics by Occupation. L. E. Truesdell, Washington, D. C.—p. 620.
A Swan Song in Public Health Work (Borough of Bermondsey, London). E. R. Hayhurst, Columbus, Ohio.—p. 627.

Nutritive Value of Ice Cream.—Palmer believes that the results of his experiments offer important evidence regarding the nutritive value of ice cream. The standard vanilla ice cream used was a valuable supplement to certain types of diet for growth. In addition, the same ice cream alone was capable of promoting growth at a moderate rate to produce mature animals of normal or nearly normal size and weight.

Value of Milk and Bananas to Undernourished Children.—McNamara stresses the value of milk and bananas as a supplementary lunch, not only because they furnish a complete food when used together, owing to the fact that the ratio of carbohydrates and fats to proteins makes a well balanced diet, but also because the ripe banana is palatable and easily digested and assimilated. The combination also contains adequate amounts of vitamins A, B and C, and the essential mineral salts. It creates a taste for a palatable food which might replace concentrated carbohydrates in the form of candy, or other sweets, between meals.

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*Schilling Blood Differential Count in Tuberculosis. J. F. Bredeck, St. Louis.—p. 52.
*Resorcinol Tests in Relation to Diseases Without Concomitant Tuberculosis. A. B. Baylis, New York.—p. 79.
Subcutaneous Emphysema Simulating Pneumothorax. J. R. Head, Chicago.—p. 90.
Reproduction of Tuberculin Hypersensitiveness in Guinea-Pigs with Various Protein Substances. L. Dienes and E. W. Schoenheit, Asheville, N. C.—p. 92.
Permeability of Respiratory Tract to Antigens. P. F. Clark, W. S. Middleton and O. M. Wilson, Madison, Wis.—p. 106.
Chemical Changes Accompanying Growth of Avian Tubercle Bacilli on Long's Synthetic Medium. A. G. Renfrew, S. L. Bass and T. B. Johnson, New Haven, Conn.—p. 114.
Chemical Changes Accompanying Growth of Timothy Bacilli on Long's Synthetic Medium. S. L. Bass and T. B. Johnson, New Haven, Conn.—p. 122.
*Report of Fifty Autopsies in Which Primary Cause of Death Was Pulmonary Tuberculosis. A. O. Sanders, Palo Alto, Calif.—p. 128.

Emotion and Tuberculosis.—The evidence presented by Simpson should convince the most skeptical that emotions are tabu in the cure of tuberculosis. Emotions are undoubtedly harmful in this disease. Even the tender emotion of love should be handled in a platonic (mental rather than physical) fashion while a patient is in the throes of tuberculosis. There is no known narcotic which can be administered to quell emotions without producing after-effects often more harmful than the original emotional state. Pain can be alleviated by morphine or cocaine but pain is not an emotion. Pain is a sensation and is to be considered with sweet, sour, hot, cold, green, red and various olfactory sensations.

Fluoroscope as Adjunct to Routine Examination of Chest.—Of 4,883 applicants who were passed on physical examination, fifty-nine, or 1.21 per cent, were shown by means of the fluoroscope to have pulmonary pathologic changes which, after the roentgen films were studied, were classified as anatomic tuberculosis. Of the fifty-nine patients, thirty-five reported back for examination within the year, and sixteen, or 45 per cent, were diagnosed as having active progressive tuberculosis. Reid says that minimal tuberculosis, as well as more advanced lesions, are visible with the roentgenoscope.

Schilling Blood Differential Count in Tuberculosis.—Bredeck asserts that the Schilling blood differential count alone cannot establish a diagnosis of tuberculosis. With a diagnosis of tuberculosis established, the method offers the best single guide in determining the progress of the disease. It is the most delicate index of the phase and degree of focal activity. Subcutaneous tuberculin can produce all the characteristic blood changes found in the Schilling blood differential count in active tuberculosis. Changes in the blood differential count after tuberculin occur before the fever reaction, and with smaller doses of tuberculin than those that induce fever. The Schilling procedure and the subcutaneous tuberculin test constitute the most delicate and most accurate methods in the diagnosis of early manifest and induced focal activity. A shifting of the neutrophilic leukocytes to the left in the Schilling blood differential count is a constant finding in clinical active tuberculosis. The monocytes play an important rôle in the early activity of tuberculosis and in the late healing stages of the disease. An increase of monocytes may be very significant as a sign of progression of disease or a sign of healing. Lymphocytes are also important, and show an increase with healing and a diminution with progression of the disease. A high lymphocyte count, with an increase in monocytes and with little or no change in neutrophils, indicates healing. A drop in lymphocytes and an increase in monocytes, with an increase in the shifting to the left of the neutrophils, indicates active progression of the disease. The prognosis of tuberculosis depends on the severity of the shifting of the neutrophils to the left and the degree of changes in the number of lymphocytes.

Resorcinol Tests in Relation to Diseases Without Tuberculosis.—Baylis finds that while the resorcinol tests are capable of rendering in many instances a differential diagnosis, their chief value lies in their ability to measure the degree of activity in a recognized tuberculous infection.

Pulmonary Tuberculosis Cause of Death in Fifty Autopsies.—In these fifty autopsies unexpected conditions were often found by Sanders. This was strikingly true with regard to the intestinal tract. Of nine cases in which extensive intestinal lesions were observed in both the small and the large bowel, no note was made in the clinical records of any bowel symptom except moderate constipation in three cases, abdominal

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distress alone in one case and abdominal distress together with diarrhea in five cases. Of the ten cases in which tuberculous lesions were found only in the small bowel, no notation was made in the clinical record of any abdominal symptoms in four cases; moderate constipation was recorded in two, and abdominal distress with diarrhea was reported in four cases. Of the two cases in which intestinal lesions were found only in the cecum and colon, no mention was made of abdominal symptoms in one, but diarrhea was noted in the other. Of the fifty patients, the clinical records reported thirteen with notable diarrhea. In these thirteen, tuberculous intestinal lesions were found in ten at autopsy.

Annals of Otol., Rhinol. & Laryng., St. Louis

38: 313-591 (June) 1929

Anaphylaxis and Allergy in Rhinology. F. P. Emerson, Boston.—p. 313.
Coincidence of Meningeal Calcification and Nasal Pathology. J. A. Babbitt, Philadelphia.—p. 320.
Brain Abscess and Meningitis Secondary to Acute Paranasal Sinusitis. J. B. Potts, Omaha.—p. 329.
Trigeminal Disturbances of Otitic Origin. F. K. Hansel, St. Louis.—p. 335.
Perforation of Esophagus: Six Cases. E. King, Cincinnati.—p. 351.
Histopathology of Nose and Throat in Experimental Cretinism. S. J. Pearlman, M. E. Kahn and M. M. Kunde, Chicago.—p. 363.
Nerve Block in Amygdalectomy. H. A. Trotter, Buffalo.—p. 376.
Abortive Treatment of Peritonsillar Inflammation. W. R. Thompson, Fort Worth, Texas.—p. 386.
Encephaloma or So-Called Nasal Glioma. J. Browder, New York.—p. 395.
Pathogenesis of Osteomas of Nasal Accessory Sinuses. A. G. Fetissof, Tomsk, Siberia.—p. 404.
Value of Barbital Before Local Anesthesia. R. A. Barlow, Rochester, N. Y.—p. 421.
Incidence of Ear, Nose and Throat Defects in Lincoln School Children. E. B. Brooks, Lincoln, Neb.—p. 424.
Treatment of Dacryocystitis from Viewpoint of Rhinologist. A. C. Jones, Boise, Idaho.—p. 435.
Otologic Complications from Swimming in Summer Camps: Attempt at Prevention. F. T. Hill, Waterville, Me.—p. 444.
Unusual Cases of Lateral Sinus Thrombosis. A. M. Alden, St. Louis.—p. 455.
Mastoids: Foci of Infection for Arthritis: Case. T. S. Burgess, Atlanta, Ga.—p. 465.
Agranulocytic Angina: Two Cases, One Death and One Recovery. R. E. Windham, Longview, Wash.—p. 470.
Ethmoiditis Producing Hemiplegia, Concomitant with Toxic Scarlet Fever: Operation, Cure. M. A. Weinstein, Philadelphia.—p. 478.
Otitic Brain Abscess. F. A. Kiehle, Portland, Ore.—p. 482.
Otolaryngologic Reading Club. J. H. Roth and S. J. Pearlman, Chicago.—p. 488.
Sinusitis in Children. J. M. Brown, Los Angeles.—p. 500.
Analysis of 500 Tonsillectomies. M. C. Comer, Tucson, Ariz.—p. 506.

Archives of Ophthalmology, Chicago

1: 669-773 (June) 1929

Bilateral Multiple Ocular Dermoids: Case. J. H. Dunnington, New York.—p. 669.
Treatment of Ptosis. L. de Blaskovics, Budapest, Hungary.—p. 672.
Artificial Induction of Ocular Hypertension by Compression of Jugular Veins. M. J. Schoenberg, New York.—p. 681.
Light Sense in Early Glaucoma. G. S. Derby, P. A. Chandler and M. E. O'Brien, Boston.—p. 692.
Tumor (Cavernous Angioma) of Orbit Causing Pressure Symptoms on Eyeball. A. Knapp, New York.—p. 704.
Ocular Anaphylaxis. A. N. Lemoine, Kansas City, Mo.—p. 706.
Obstinate Case of Chronic Infection of Conjunctivae from Bacillus Xerosis. G. Young, Colchester, England.—p. 712.
Therapeutic Value of Tuberculin Ophthalmology. C. King, Cincinnati.—p. 713.

Archives of Otolaryngology, Chicago

9: 597-713 (June) 1929

Pathogenesis of Cholesteatoma. LeR. M. Polvogt, Baltimore.—p. 597.
Malignant Growth Involving Both Middle Ears: Case. G. E. Shambaugh and E. W. Hagens, Chicago.—p. 602.
Asthma: IV. Nose and Throat in Asthma. F. M. Rackemann and H. G. Tobey, Boston.—p. 612.
Sedimentation Rate in Acute Otitis Media and Complications. V. K. Hart, Charlotte, N. C.—p. 622.
Age Variations in Auditory Acuity. C. C. Bunch, Baltimore.—p. 625.
Present Status of Intranasal Operations for Relief of Involvement of Optic Nerve. R. A. Fenton, Portland, Ore.—p. 637.
Neuromuscular Mechanism of Hearing. R. West, Madison, Wis., and R. A. Barlow, Rochester, N. Y.—p. 645.
New Laryngologic Phantom Devised by Franz Haslinger, M.D., Vienna. I. I. Alper, New York.—p. 654.
New Combined Submucous Dissector and Suction Cannula. D. W. Hamrick, Corinth, Miss.—p. 655.
Cavernous Sinus Thrombosis and Meningitis Following Tonsillectomy. C. Ide, Tucson, Ariz.—p. 656.
New Instrument for Reduction of Nasal Fractures. S. Salinger, Chicago.—p. 657.
Progressive Deafness, Otosclerosis and Diseases of Labyrinth. J. K. M. Dickie, Ottawa, Canada.—p. 659.

Archives of Pathology, Chicago

7: 949-1135 (June) 1929

Recovery from Myostatic Contracture Caused by Tetanus Toxin. S. Ranson and S. W. Ranson, Chicago.—p. 949.
*Morphologic Study of Regeneration of Liver After Partial Removal. F. C. Fishback, Rochester, Minn.—p. 955.
Microscopic Changes of Muscle in Myostatic Contracture Caused by Tetanus Toxin. H. K. Davenport, S. W. Ranson and E. Stevens, Chicago.—p. 978.
*Histologic Study of Formation of Bile Pigment. K. O. Haldeman, Rochester, Minn.—p. 993.
Does Splenectomy Influence Leukopenia Induced by Injection of Certain Foreign Substances? I. T. Zeckwer, Philadelphia.—p. 1012.
Solitary Cyst of Kidney: Case. W. C. Hueper, Chicago.—p. 1023.
*Changes in Liver and in Pancreas in Chronic Pulmonary Tuberculosis. O. Saphir, Cleveland.—p. 1026.
Paraffin Method for Sections Without Ethyl Alcohol. W. F. Farmer, Shreveport, La.—p. 1040.
Effects of Inanition and Malnutrition on Growth and Structure. C. M. Jackson, Minneapolis.—p. 1042.

Morphologic Study of Regeneration of Liver After Partial Removal.—Experiments made by Fishback showed that when from one fifth to three fourths of the liver has been removed from a dog, the remaining part regenerates completely in from six to eight weeks. The process consists of marked hypertrophy of the remaining lobes. The pedicle does not regenerate. Restoration takes place within the remaining lobes, which hypertrophy until they attain at least four fifths of the size and weight of the original liver. Regeneration closely resembles the embryonic development of the liver. There is a marked increase in the glycogen content of the liver, especially in the periportal zones, from the first to the fourth week after partial hepatectomy. Glycogen is contained in large vacuoles in the cytoplasm. The fat content of the liver increases for four days and then falls slowly until the normal content is again reached ten days later. At the end of from six to eight weeks, sections reveal tissue indistinguishable from normal liver, with the possible exception that proliferating bile ducts rarely persist. The lobules do not hypertrophy but undergo a hyperplastic, budding process at their periphery, productive of new lobules so similar in size and shape that they cannot be distinguished from the old ones. Here, again, the analogy to the embryologic development of the liver is evident. The liver appears to possess an infinite capacity for regeneration. The remaining part of the liver responds as rapidly and completely after the second or third partial hepatectomy as after the first.

Histologic Study of Formation of Bile Pigment.—The conclusion is drawn by Haldeman that the bone marrow plays the major rôle in the formation of bilirubin, with the liver, spleen and possibly the lymph nodes having a lesser part in this process. The connective tissue macrophages, or histiocytes, are probably responsible for the local formation of bilirubin resulting from the injection of hemoglobin into the pleural cavity or under the scalp.

Changes in Liver and Pancreas in Chronic Pulmonary Tuberculosis.—Among 100 cases of chronic ulcerative tuberculosis of the lung reported by Saphir, thirty-four showed the presence of fat in the liver. Only three of these cases showed complete infiltration of the liver by fat. There was no relation between the infiltration of the liver by fat and the presence of tubercles in the liver and ulcerative tuberculous lesions in the intestines. There was no relation between age, color or sex and the infiltration of the liver by fat. Eighty of the cases showed tubercles in the liver. An increase in connective tissue was present in 67 per cent, but only four cases showed changes that were called sclerosis. The pancreas showed tubercles in 4 per cent. In eleven cases an increase in connective tissue was demonstrated. Only two cases showed sclerosis. There was no relation between the fibrotic changes in the liver and those in the pancreas, between tubercles of the pancreas and tuberculous lesions of the intestines, or between fibrotic changes of the pancreas and the age. Special attention was given to the size of the islets of Langerhans. In cases in which fat was found in the liver, the largest diameter of the islets measured less than 350 microns. The diameters did not exceed 275 microns in cases of complete infiltration of the liver by fat. The pancreas in twenty-three cases that did not show any fat in the liver had islets measuring more than 350 microns in diameter; ten of these islets measured more than 400 microns.

On the assumption that larger islets mean increased function, which, of course, is questionable, it was suggested that it may depend on the size of the islets of Langerhans, together with other factors, whether or not the liver in cases of pulmonary tuberculosis contains fat. The larger islets may cause the sudden hypoglycemia found in some cases of diabetes complicated with tuberculosis during the course of treatment with insulin.

Archives of Physical Therapy, X-Ray, Radium, Omaha

10: 239-286 (June) 1929

Biologic Effects of Ultraviolet Rays: What Part of Spectrum They Lie In. C. Sonne, Finsen Institute, Copenhagen.—p. 239.
*Evaluation of Heliotherapy in Tuberculosis. S. H. Watson, Tucson, Ariz.—p. 252.
Arterial Hypertension and Physical Therapy. J. Gutman, New York.—p. 259.
Treatment of Malignant Conditions with Radium Emanation with Special Reference to So-Called Hopeless Cases. I. I. Kaplan, New York.—p. 266.
Barraquer Cataract Operation and Its Simplified Form. O. B. Nugent, Chicago.—p. 267.
Zinc Ionization. G. P. Lawrence, Columbus, Ohio.—p. 271.

Value of Heliotherapy in Tuberculosis.—Watson summarizes his ideas concerning the value of heliotherapy in tuberculosis as follows: Heliotherapy is by no means indicated in all cases of tuberculosis. There are many tuberculous patients who should never use it. In general, direct sunlight is indicated in cases of extrapulmonary tuberculosis and contraindicated in cases of pulmonary tuberculosis. For no type of tuberculosis is heliotherapy a cure; but often, especially in the extrapulmonary cases, it is a very valuable, or even necessary, aid. Since it is not in itself a cure, heliotherapy should never be used to the exclusion of the usual standard therapeutic measures. Never should it be forgotten that the direct rays of the sun are extremely powerful, and that, carelessly administered, they can effect great harm. Direct sunlight, in the same amount, affects patients differently — more differently, especially in the beginning of its use, than almost any other remedy. Obviously, therefore, it must be used, in every case, not according to any hard and fast rule, not according to any theoretically predetermined dosage, but according to the individual reaction. Heliotherapy is of the greatest value, and may be practiced with the least chance of doing harm, in pure extrapulmonary tuberculosis; that is, in the so-called surgical tuberculosis without pulmonary lesion. It is of great value in extrapulmonary tuberculosis with coincident pulmonary lesions; but in giving it here one must be far more careful than in the uncomplicated surgical type—particularly as regards exposing the thorax. It is of great value in hilum gland tuberculosis, and in this type should invariably be used. It is of some value in some cases of the proliferative type of pure pulmonary tuberculosis; but here it must be employed with the greatest caution, lest it transform a favorable, stationary or healing lesion into a rapidly progressing and fatal one. It is virtually never of value and is often positively harmful in the exudative type of pure pulmonary tuberculosis, as well as in all acute types; and in such cases, therefore, it ought never to be used. Finally, in whatever type of tuberculosis heliotherapy is used, it should always leave the patient feeling the same, or better, both during and after his sunbath; if it does not do so, something is vitally wrong, and the patient should beware.

Canadian Public Health Journal, Toronto

20: 219-270 (May) 1929

Some Findings in Epidemic of Poliomyelitis in Alberta, 1927. R. B. Jenkins, Alberta.—p. 219.
*Results of Convalescent Serum Therapy in Acute Poliomyelitis in Manitoba Epidemic, 1928. J. M. McEachern, B. Chown, L. G. Bell and M. McKenzie, Winnipeg.—p. 235.
Dangers of Unpasteurized Milk with Reference to Malta (Undulant) Fever. N. MacL. Harris, Ottawa.—p. 241.

Convalescent Serum Therapy in Acute Poliomyelitis.—This report by McEachern et al. is based on 161 cases. The serum used was the pooled, sterile, Wassermann negative, blood serum of from six to eight donors. These donors had had the disease from a few months to thirty-three years previously, each donor's condition having previously been confirmed from original sources and by examination. The intramuscular method of administration was used exclusively. Standard doses of 25 cc. were used in the preparalytic stage of the disease. Subsequent doses were given by the same method if the disease was found to be progressive. Only a small number of patients received the serum intravenously or intrathecally. More than 8,000 cc. of serum was administered during the course of the epidemic, 98 per cent of which was obtained from local donors. In no instance was there an immediate or late unfavorable reaction following the administration of this serum. Nor was there a single instance of infection following its use. Of the 161 patients here considered, seventy-four received serum in the preparalytic stage of the disease, fifty-four did not receive serum, and thirty-three received serum too late to be of much value; that is, after the onset of paralysis. Of fifty-seven patients who received an average of 25 cc. of serum intramuscularly in the preparalytic stage of the disease, 93 per cent made a complete recovery. Of the fifty-four patients who did not receive any serum at all, only 26 per cent made a complete recovery. Eleven per cent died and the remainder were paralyzed. Seventeen patients received one or more doses of serum by various routes, or received more than one dose of intramuscular serum. The results are approximately the same as those in the first thirty-three patients who received serum after the onset of paralysis. Only 22 per cent made a complete recovery, 33 per cent died, and 45 per cent became paralyzed. General observations on these figures would seem to indicate, first, that the earlier the onset of paralysis, the worse the prognosis, and, secondly, that serum is of little value once paralysis has ensued.

20: 271-322 (June) 1929

Food and Drugs Act Administration. H. M. Lancaster, Ottawa.—p. 271.
Rural School Hygiene. J. T. Phair, Toronto.—p. 277.
Effect of Various Temperatures on Viability of Vaccine Virus. N. E. McKinnon and R. D. Defries, Toronto.—p. 282.
Periodic Health Examination as Public Health Measure. F. C. Middleton, Saskatchewan.—p. 288.
Teaching Health in High Schools. M. Lindeburgh, Regina.—p. 294.
Health Legislation in Nova Scotia. A. C. Jost, Delaware.—p. 299.

20: 323-374 (July) 1929

*Incidence of Bovine Tuberculosis in Children. R. M. Price.—p. 323.
Evaluation of Diphtheria Immunization Work. W. W. Lee.—p. 331.
Control of Communicable Diseases. R. O. Davison.—p. 339.
Sydney Kiwanis Health Camp. M. MacKenzie.—p. 344.
Teaching of Health in Elementary Schools. A. E. Wells.—p. 349.

Incidence of Bovine Tuberculosis in Children.—The study made by Price shows that about 12 per cent of surgical tuberculosis in children, leading to operation, disablement and disfigurement, and occasionally even to the death of the child, is preventable, and can be easily controlled by the simple means of pasteurization or boiling of milk. Milk is the vehicle for the transmission of the bovine tubercle bacillus. Tissue localization of bovine tubercle bacillus is peculiar to certain regions, the lungs being practically immune. In the Toronto district, which is a pasteurized area, not a single case of bovine infection has been recovered up to the present.

Delaware State M. Journal, Wilmington

1: 91-108 (June) 1929

Cancer Situation: 1929. W. E. Bird, Wilmington.—p. 91.
Respecting Your M.D. C. Scheffel, Detroit.—p. 95.
Indications for Thyroidectomies and Postoperative Results. C. H. Frazier, Philadelphia.—p. 96.

Florida M. Assoc. Journal, Jacksonville

15: 575-618 (June) 1929

Fractures of Skull. J. R. Wells, Daytona Beach.—p. 585.
Brill's Disease. J. A. Mease, Jr., Dunedin.—p. 594.
Tannic Acid Treatment of Burns. N. A. Baltzell, Marianna.—p. 597.
Volkmann's Contracture (Ischemic Paralysis). A. R. Beyer, Tampa.—p. 599.
Hemorrhage of Ovarian Origin: Case. G. F. Oetjen, Jacksonville.—p. 601.
Brachial Plexus Anesthesia. I. M. Hay, Melbourne.—p. 601.

Georgia M. Assoc. Journal, Atlanta

18: 234-285 (June) 1929

Problem of Feeblemindedness. N. A. Dayton, Boston.—p. 234.
Injection Treatment of Varicose Veins. C. E. Rushin, Atlanta.—p. 238.
Treatment of Procidentia Uteri. O. S. Cofer, Atlanta.—p. 243.
Allergic Reactions: Croup, Coryza and Bronchitis as Allergic Reactions in Children. L. Bivings, Atlanta.—p. 247.
Laboratory as Aid in Diagnosis of Diseases of Children. B. Bashinski, Macon.—p. 251.

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Indiana State M. Assoc. Journal, Fort Wayne

22: 227-268 (June) 1929

Pollen Survey of Indiana. O. C. Durham, Indianapolis.—p. 227.
Glioma. D. A. Bartley, Indianapolis.—p. 231.
Abdominal Trauma with Intestinal Injury. W. D. Inlow, Shelbyville.—p. 237.
Medical Economic Fundamentals. E. H. Ochsner, Chicago.—p. 240.
Figure-of-Eight Knot of Umbilical Cord. C. O. McCormick, Indianapolis.—p. 245.

Journal of Clinical Investigation, Baltimore

7: 183-312 (June 20) 1929

Physiology of Parathyroid Glands: I. Calcium and Phosphorus Studies on Case of Idiopathic Hypoparathyroidism. F. Albright and R. Ellsworth, Baltimore.—p. 183.
Determination of Circulating Blood Volume in Infants by Carbon Monoxide Method. R. McIntosh, Baltimore.—p. 203.
Apparatus for Prolonged Administration of Artificial Respiration: I. Design for Adults and Children. P. Drinker and L. A. Shaw, Boston.—p. 229.
Involution of Cutaneous Xanthomas Caused by Diets Low in Calories. A. C. Curtis, U. J. Wile and H. C. Eckstein, Ann Arbor, Mich.—p. 249.
Surface Tension of Blood Serum and Determination of Surface Tension of Biologic Fluids. H. N. Harkins and W. D. Harkins, Chicago.—p. 263.
Blood Volume Preceding and Following Splenectomy in Hemolytic Icterus and Splenic Anemia. H. Z. Giffin, G. E. Brown and G. M. Roth, Rochester, Minn.—p. 283.

Journal of Experimental Medicine, Baltimore

50: 1-141 (July 1) 1929

Preservation of Yellow Fever Virus. W. A. Sawyer, W. D. M. Lloyd and S. F. Kitchen, New York.—p. 1.
Comparison of Manner of Excretion of Neutral Red and Phenol Red by Frog's Kidney. J. Oliver and E. Shevky, San Francisco.—p. 15.
Filtration of Virus of Vaccinia. H. K. Ward, Boston.—p. 31.
*Attempts to Reproduce Rheumatic Fever in Animals. L. Gross, L. Loewe and B. Eliasoph, New York.—p. 41.
Relation of Bacteria to So-Called Chemical Pneumonia. A. R. Koontz and M. S. Allen.—p. 67.
South American Yellow Fever: III. Transmission of Virus to Brazilian Monkeys. N. C. Davis and R. C. Shannon, Bahia, Brazil.—p. 81.
Immunologic Studies in Relation to Suprarenal Gland: IV. Effect of Repeated Injections of Epinephrine on Hemolysin Formation in Suprarenalectomized Rats. D. Perla and J. Marmorston-Gottesman, New York.—p. 87.
Id.: V. Effect of Repeated Injections of Solutions Containing Sodium Salts and Glucose on Hemolysin Formation of Normal and Suprarenalectomized Rats. J. Marmorston-Gottesman and D. Perla.—p. 93.
Production and Titration of Potent Horse Antipneumotoxin. J. T. Parker and M. Van S. McCoy, New York.—p. 103.
Biometry of Calcium, Inorganic Phosphorus, Cholesterol and Lecithin in Blood of Rabbits: IV. Effects of Malignant Tumor. A. R. Harnes, Baltimore.—p. 109.
Blood and Bone Marrow Cells of Domestic Fowl. C. E. Forkner, Baltimore.—p. 121.

Attempts to Reproduce Rheumatic Fever in Animals.—Gross et al. attempted to reproduce in animals the lesions characteristic of rheumatic fever in the human being. A large number of animals representing seven species were employed. Among other materials, streptococci isolated in pure culture from the blood of rheumatic patients (proved to be so by biopsy or by autopsy), as well as the whole blood, plasma, serum, pericardial, pleural and hydrocele fluid, filtrates from tonsils, subcutaneous nodules, lymph nodes and nasopharyngeal washings obtained from such patients were used in a variety of combinations and with a number of procedures calculated to predispose the animal to the disease. They failed to reproduce the disease.

Journal of Industrial Hygiene, Baltimore

11: 139-174 (May) 1929

Enameled Sanitary Ware Manufacture. A. Hamilton, Chicago.—p. 139.
Experimental Electric Shock: II. R. W. I. Urquhart and E. C. Noble, Toronto, Canada.—p. 154.

Journal of Infectious Diseases, Chicago

44: 421-510 (June) 1929

Heat Resistance of Bacterial Spores. O. B. Williams, Berkeley, Calif.—p. 421.
Virulence of Bacillus Paratyphosus B (Aertrycke): In White Mice. R. D. Friedlander and K. F. Meyer, San Francisco.—p. 466.
Id.: In Guinea-Pigs. R. D. Friedlander and L. D. Hertert, San Francisco.—p. 481.
Cutaneous Immunization Against Streptococcus of Guinea-Pig Lymphadenitis. L. D. Hertert and K. F. Meyer, San Francisco.—p. 489.
Cutaneous Immunization Against Bacillus Aertrycke in Guinea-Pig. H. L. Averill and K. F. Meyer, San Francisco.—p. 495.
Culture Tube for Tubercle Bacillus. W. J. MacNeal and A. B. Baylis, New York.—p. 503.

Journal of Pharmacol. & Exper. Therap., Baltimore

36: 129-250 (June) 1929

*Effect of Magnesium Sulphate on Strychnine Convulsions. F. P. Underhill and E. C. Wood, New Haven, Conn.—p. 129.
Blood Pressure in Unanesthetized Animals as Affected by "Vasopressin," "Oxytocin," Pituitary Extract and Other Drugs. C. M. Gruber, St. Louis.—p. 155.
*Effect of Ceanothin Extract on Normal Human Blood Coagulation Time. O. S. Gibbs, Halifax, Nova Scotia.—p. 173.
Pupillary Reaction in Tetrapods: V. Action of Pilocarpine on Pupil of Guinea-Pig. T. Koppanyi, Syracuse, N. Y.—p. 179.
*Action of Calcium on Isolated Human Fetal Heart. W. D. M. Lloyd, London, Canada.—p. 185.
Effect of Mercury on Cardiac Inhibition. W. Salant and K. Brodman, Cold Spring Harbor, Long Island.—p. 195.
Influence of Pituitary Extract, "Vasopressin" and "Oxytocin" on Intact Intestine in Unanesthetized Dogs. C. M. Gruber and P. I. Robinson, St. Louis.—p. 203.
Nitrite Toleration. H. B. Myers and V. T. Austin, Portland, Ore.—p. 227.
Experimental Study on Sugar in Blood and Cerebrospinal Fluid. S. Katzenelbogen, Baltimore.—p. 231.
Modification of Insulin Action in Medulliadrenal Inactivated Cats by Postpituitary Extracts. E. M. K. Geiling, S. W. Britton and H. O. Calvery, Baltimore.—p. 235.
Pharmacologic Study of Leucines and Cystines. D. I. Macht, Baltimore.—p. 243.

Effect of Magnesium Sulphate on Strychnine Convulsions.—The experiences reported by Underhill and Wood emphasize strongly the inadvisability of applying to one species of animal conclusions derived from experiments on another markedly different species. Magnesium sulphate is quite effective in preventing or abolishing strychnine tetanus in the frog, and the animal eventually recovers. On the other hand, with the rat and guinea-pig, if the magnesium salt prevents or inhibits strychnine tetanus, the animals die from the paralytic effect of the magnesium. It is quite probable that the success with the frog is to be attributed to the fact that the frog can maintain its tissue respiration through the skin to a degree sufficient to sustain life for relatively long periods, even though the pulmonary respiration has been abolished by large doses of magnesium sulphate. This, of course, is impossible with the rat and guinea-pig and these animals die under the experimental conditions of tetanus unchecked by magnesium or else of paralysis induced by the large doses of the magnesium salt. In either event death is due to failure of the respiration. From the detailed results it would appear that attempts to control strychnine convulsions in mammals by magnesium sulphate lack experimental justification.

Effect of Ceanothin Extract on Blood Coagulation Time.—Gibbs states that ceanothin extract taken by mouth in quantities up to 80 cc. could not be shown to alter the normal human clotting time.

Effect of Calcium on Isolated Human Heart.—Lloyd summarizes the action of calcium on two isolated human fetal hearts by saying that its administration was always followed by an increased strength of systole, a more regular rhythm, and a better coordination between auricle and ventricle.

Medical J. & Record, New York

130: 1-60 (July 3) 1929

Sterility Studies: Diagnosing Obscure Cases. W. H. Cary, New York.—p. 1.
Personal Experiences with Ephedrine. G. B. Lake, Chicago.—p. 7.
*Acid Treatment of Hay-Fever. H. Beckman, Milwaukee.—p. 9.
Fusion of Arthritic Knee by Intra-Articular Bone Graft. D. D. Ashley, New York.—p. 15.
Somnia: Psychologic Consideration of Sleep and Wakefulness. R. Kingman, New York.—p. 17.
Variations in Size of Tablespoon Measure. S. K. Levy, New York.—p. 21.
Treatment of Gastric and Duodenal Ulcers. H. J. Paterson, London.—p. 23.
Signposts in Gastro-Enterology. M. Golob, New York.—p. 26.
Treatment of Peptic Ulcer by Protein Injection. M. S. Shaine, New York.—p. 30.
Acute Appendicitis: 818 Cases with Reference to Factors of Mortality. R. M. Harbin, Rome, Ga.—p. 32.
Pectinate Line in Anorectal Diseases. J. B. Becker, Philadelphia.—p. 36.
Gastrospasm in Gallbladder Disease Simulating Carcinoma of Stomach. I. Gray and B. M. Bernstein, New York.—p. 37.
Iodotherapy. H. J. Novack, Philadelphia.—p. 39.

Acid Treatment of Hay-Fever.—In a group of 185 patients with hay-fever, treated by twenty-six physicians during the summer of 1928, Beckman says that approximately 66 per cent obtained marked or complete relief from symptoms by the

ingestion of a mineral acid four times daily during their "season." In a group of 2,185 patients with hay-fever, treated by five physicians, approximately 70 per cent obtained marked or complete relief from symptoms as a result of preseasonal pollen desensitization. None of the patients taking the acid treatment experienced any sort of reaction therefrom, nor did any of those who were relieved object to the "strong" taste of the medicine; whereas, among desensitization patients, a considerable number have to undergo local and constitutional reactions of varying severity, and from 2 to 3 per cent are made worse by the treatment. Certain observations are cited in support of the belief that allergic patients are benefited by instituting in them a state of slight or potential acidosis, whether this is accomplished by the actual employment of acids or by some other means. The suggestion is therefore offered that a clean start be made in the study of allergy, the new researches to be based on the assumption that the allergic person is one who is at all times in a state of relative alkalosis.

Michigan State M. Soc. Journal, Grand Rapids

28: 481-522 (July) 1929

Etiologic Approach to Study of Disease. L. F. Barker, Baltimore.—p. 481.
Frontal Sinus Empyema with Subperiosteal Abscess in Girl Aged Seven Years: Case. R. L. Laird, Detroit.—p. 489.
Congenital Valve of Posterior Urethra. J. K. Ormond, Detroit.—p. 492.
Relation of Upper Respiratory Infection to Middle Ear. D. R. Heetderks, Grand Rapids.—p. 494.
Treatment of Chronic Bronchopulmonary Suppurative Lesions Limited to One Lobe of Lung. W. Whittemore, Boston.—p. 497.
Michigan's Department of Health. G. L. Kiefer, Lansing.—p. 500.

Military Surgeon, Washington, D. C.

65: 1-170 (July) 1929

Seventh Sense (Vestibular or Balance Sense) in Aviation. W. L. Mann.—p. 1.
Report on First International Congress of Tropical Medicine and Hygiene and Centenary Celebration of Faculty of Medicine, Cairo, Egypt, Dec. 15 to 22, 1928. G. Fitz-Patrick.—p. 25.
Tribulations of Medical Corps of French Army from Origin to Our Own Time. Inspector General Sieur.—p. 31.
Sanitary Corps of Army: Scope and Functions. W. A. Hardenbergh and J. A. Tobey.—p. 46.
Line of Duty in Pulmonary Tuberculosis. A. T. Cooper and S. L. Van Valzah.—p. 53.
Venereal Diseases with Plan for Control in Future Wars. L. Thompson.—p. 59.
Massive Ventral Hernia. H. P. Makel.—p. 63.
General Albert J. Myer and United States Weather Bureau. G. M. Kober.—p. 65.

Minnesota Medicine, St. Paul

12: 399-456 (July) 1929

Pneumosilicosis: Fatal Case. R. C. Logefeil, Minneapolis.—p. 399.
Extrasystoles: Six Cases. J. F. Borg, St. Paul.—p. 404.
Iododerma and Bromoderma: Twelve Cases. W. H. Goeckerman, Rochester.—p. 408.
*Undulant Fever in Infant: Case. C. O. Kohlbry, Duluth.—p. 414.
Gallstone Ileus: Case. R. C. Webb, Minneapolis.—p. 416.
Lesions of Peripheral Nerves. J. R. Learmonth, Rochester.—p. 420.
*Physique of Smokers as Compared to Nonsmokers. H. S. Diehl, Minneapolis.—p. 424.
Obscure Abdominal Symptoms Preceding Epilepsy in Childhood: Three Cases. T. Myers, St. Paul.—p. 428.
Acromioclavicular Dislocations. M. O. Henry, Minneapolis.—p. 431.
Sigmoidal Fistula Discharging Through the Right Thigh: Case. C. M. Roan, Minneapolis.—p. 434.
Renal Calculus Pyelonephritis: Case. L. Murphy, Minneapolis.—p. 436.

Undulant Fever in Infant.—A case of undulant fever in a boy, aged 1 year, is reported by Kohlbry. The unexplained fever range with the extreme sweating and pallor proved to be significant in the symptom complex. Serum agglutination tests cleared up the diagnosis. A high grade anemia was also present.

Physique of Smokers as Compared to Nonsmokers.—Certain data taken from the physical examination records of a group of freshmen university students who smoke is compared by Diehl with corresponding data from the records of a similar number of freshmen students who do not smoke. Those comparisons show that the students who smoke are slightly older and for the most part come from larger cities than the nonsmokers. The mean height, weight, height-weight age percentage, vital capacity, blood pressure and pulse rate do not show any significant differences between the two groups. However, the mean grade on Schneider's cardiovascular physical fitness test is significantly lower among the smokers than among the nonsmokers. The physical defects compared, namely, abnormalities of the nose, hypertrophied and pathologic tonsils, dental caries, impaired hearing, posture, albuminuria and glycosuria, did not show any significant differences in incidence among the groups. The final ratings for purposes of classification for physical activities are not significantly different for the groups.

Missouri State M. Assoc. Journal, St. Louis

26: 315-370 (July) 1929

Anoxemia and Its Clinical Consequences. C. F. Nelson, Lawrence, Kan.—p. 315.
*Agranulocytic Angina: Case. J. C. Kopelowitz, St. Louis.—p. 320.
Lung Abscess: Differentiation from Pulmonary Tuberculosis. E. E. Glenn, Mount Vernon.—p. 324.
*Intestinal Tuberculosis. B. J. McGinnis, Mount Vernon.—p. 327.
Melanosarcoma of Choroid: Case. G. H. Poos, St. Louis.—p. 331.
Surgical Management of Hyperthyroidism. E. V. Mastin, St. Louis.—p. 333.

Agranulocytic Angina.—A fatal case of agranulocytic angina is reported by Kopelowitz. The bone marrow was practically normal, whereas in the majority of the cases that have come to autopsy the bone marrow has shown an absence of polymorphonuclears. Kopelowitz does not believe that agranulocytic angina is a distinct disease, but feels that there must be some factor, some idiosyncrasy or allergy or possibly endocrine factor, that renders the hematopoietic system susceptible to a noxious agent.

Intestinal Tuberculosis.—McGinnis reports six cases in which he used the quartz lamp, beginning with exposures of the lower limbs and daily increasing the body surface exposed until the entire body is included. The treatments are begun at a distance of 30 inches (76 cm.) for one minute and gradually increased until a maximum of ten minutes at a distance of 18 inches (46 cm.) is reached; in some of the more advanced cases the chest is covered during treatment. From a symptomatic point of view the results have been excellent.

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Nebraska State M. Journal, Norfolk

14: 257-296 (July) 1929

Problems of Chronic Poisoning by Carbon Monoxide Gas. C. P. Fordyce, Falls City.—p. 257.
Progress of Surgery. H. H. Davis, Omaha.—p. 263.
Hormone Mechanism for Gallbladder Contraction and Evacuation. A. C. Ivy, Chicago.—p. 267.
Technic of Drainage Methods in Empyema. C. Emerson, Lincoln.—p. 271.
Prognosis of Time in Repair of Fractures. R. D. Schrock, Omaha.—p. 276.
Management of Seriously Sick Child. W. O. Colburn, Lincoln.—p. 278.
Types of Epilepsy in Children. E. W. Hancock, Lincoln.—p. 280.

New England J. Medicine, Boston

200: 1271-1314 (June 20) 1929

Public Instruction in Medicine. W. H. Robey, Boston.—p. 1271.
Carriers of Streptococcus Hemolyticus in Relation to Control of Scarlet Fever in Schools. E. A. Lane and E. A. Beckler, Boston.—p. 1283.
*Strength of Healing Wound in Relation to Holding Strength of Catgut Suture. E. L. Howes and S. C. Harvey, New Haven, Conn.—p. 1285.
*Surgery in Nephritic and Hypertensive Patients. J. P. O'Hare and L. Hoyt, Boston.—p. 1292.
Iniencephaly: Case. B. H. Appel and J. Kasanin, Boston.—p. 1295.
*Ninhydrin Flocculation Test for Pregnancy. M. Davis, Boston.—p. 1297.

Wound Healing and Catgut Holding Power.—Howes and Harvey conclude from their experiments that the holding power of a stitch is in direct proportion to the degree of condensation of connective tissue in the structure in which the stitch is placed. Only in fascia and similarly condensed layers of connective tissue is the holding power of the stitch greater than the strength of the finest catgut. The holding power of a stitch decreases markedly during the first two or three days, and more rapidly than does the tensile strength of chromicized catgut during the same period. Therefore the initial preponderance of strength of the suture over its holding power is maintained. The greater the amount of suture material embedded within a given area, the greater the degree of reaction of the tissue. Therefore, the least amount of catgut necessary to sustain the approximation of the tissues until requisite strength obtains in the wound should be employed. By a comparison of the velocity curve of the healing wound and the curve of the disappearance of catgut embedded in tissue, it is seen that number 0, twenty day, chromic catgut satisfies all requirements of the stitch in fascial and connective tissue layers,

while even finer catgut than this is sufficient for those structures in which the holding power of the stitch is less.

Surgery in Nephritic and Hypertensive Patients.—O'Hare and Hoyt warn that a patient about to be operated on, and having any form of nephritic or hypertensive disease, deserves a preoperative diagnosis of his medical ailment and an evaluation of the degree of impairment of the organs involved. He deserves an intelligent, skilful, rapid surgeon who understands the medical problems involved as they apply to that particular surgical patient. In such hands, unless he is unfortunate enough to have marked vascular or myocardial impairment, he should feel that his chance for recovery is almost as good as that of the patient without nephritis or hypertension. If chronic nephritis with hypertension is present, the prognosis is definitely worse. The degree of renal impairment indicated by the phenolsulphonphthalein excretion test or the blood urea nitrogen is usually the determining factor.

Ninhydria Flocculation Test for Pregnancy.—Davis used this test in 586 cases, 234 pregnant and 352 nonpregnant patients. It was 100 per cent positive in the pregnant group. A negative report in any patient who has the possibility of being more than six weeks pregnant practically excludes pregnancy, for there have not been any failures in diagnosing pregnancies of a more advanced stage than this. Of two patients less than six weeks pregnant, the diagnosis was correct in one. The second patient also gave a positive reaction when the test was repeated two weeks later. In the nonpregnant group, the test was for the most part negative.

New Orleans M. & Surg. Journal

82: 1-62 (July) 1929

Doctor of Fifty Years Ago. L. J. Menville, New Orleans.—p. 1.
Old Attakapas Country and Medical Society. F. J. Mayer, Opelousas, La.—p. 6.
Influence of Plaquemines Parish on Early Organized Medicine in Louisiana. H. E. Bernadas, New Orleans.—p. 11.
History of Shreveport Medical Society. F. S. Furman, Shreveport, La.—p. 12.
United States Public Health Service in State of Louisiana. W. C. Rucker, New Orleans.—p. 14.
Remarks in Presenting Stereopticon Exhibit of Portraits of Founders and Presidents of Louisiana State Medical Society. R. Matas, New Orleans.—p. 20.
Duodenal Fistula. W. H. Parsons, Vicksburg, Miss.—p. 29.
Chronic Disease Confronting Public Health. W. Sheely, Gulfport, Miss.—p. 33.
Function of Modern State Hospital for Mental Disease in Our Social Scheme. H. E. Austin, Meridian, Miss.—p. 35.
Superficial Infections. A. Ochsner, New Orleans.—p. 39.

Ohio State M. Journal, Columbus

25: 521-600 (July 1) 1929

Present Status of Operative Treatment of Retrodisplacement of Uterus. R. Peterson, Ann Arbor, Mich.—p. 541.
Furunculosis of External Auditory Canal. L. R. Effler, Toledo.—p. 546.
Rationalizing Treatment of Gonorrhea in Male. L. J. Roth, Columbus.—p. 547.
Compound Dislocation of Tibia, Fibula and Talus. E. B. Pedlow, Lima.—p. 549.
Lymphosarcoma of Kidney: Case. H. L. Price, Toledo.—p. 550.
Endocrine Functions of Ovary Normal and Pathologic. W. D. Fullerton, Cleveland.—p. 551.

Philippine Islands M. Assoc. Journal, Manila

9: 163-198 (May) 1929

Are Filipinos Undernourished? A. B. M. Sison.—p. 163.
Chronic Osteomyelitis of Left Tibia. R. L. Teopaco.—p. 170.
Relation Between State of Nutrition of Mother and Birth Weight of Fetus. H. Acosta-Sison.—p. 174.

Public Health Reports, Washington, D. C.

44: 1463-1536 (June 21) 1929

Distribution of Endemic Goiter in United States as Shown by Thyroid Surveys. R. Olesen.—p. 1463.
Acute Rheumatism in Childhood and Sequelae. E. B. Sterling.—p. 1488.

44: 1537-1594 (June 28) 1929

Completeness of Reporting of Measles, Whooping Cough and Chickenpox at Different Ages. E. Sydenstricker and A. W. Hedrich.—p. 1537.
Biochemical Relationships in Polluted Stream. H. Heukelekian.—p. 1544.

Texas State J. Medicine, Fort Worth

25: 67-200 (June) 1929

Focal Infection. F. P. Miller, El Paso.—p. 81.
Opportunity in Auxiliary. Mrs. J. Gilbert, Austin.—p. 83.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British J. Children's Diseases, London

26: 83-162 (April-June) 1929

*Acute Intussusception in Infants and Observations Thereon: Eight Cases. J. D. R. Murray.—p. 83.
*Rheumatic Fever and Tonsillitis. J. T. Clarke.—p. 99.
Herpes Zoster and Connection with Arsenic and Varicella. F. P. Weber.—p. 108.
*Infantile Kala-Azar: Case Cured at Alexandria by New Method. A. Panayotatou.—p. 112.
*Intestinal Toxemic Deafness in Children. M. Yearsley.—p. 116.
Unusual Complication in Vascular Nevus: Septicemia. J. H. T. Davies and R. L. Flett.—p. 120.

Acute Intussusception in Infants.—Eight cases of acute intussusception in infants are recorded by Murray. Six of these intussusceptions occurred in two infants, each of whom had three intussusceptions in the space of thirteen months. Dietetic errors were recorded in the history of each case. Treatment consisted of laparotomy and open reduction of the intussusception.

Rheumatic Fever and Tonsillitis.—Clarke points out that the geographic distribution of *Ceratophyllus fasciatus*, the common rat flea of northern temperature climates, and rheumatic fever is so similar as to make it seem possible that the insect is in some way connected with the etiology of the disease. These similarities are those not only of geographic and local distribution but of temperature and humidity, temperature being the more important. Rheumatic fever does not enter through those conditions of the throat which seem to be caused by overcrowding and bad ventilation, such as occur in the public schools, but there may be an association with the inflamed throats which are caused by the access of drain and sewer gas into houses. Defects of sanitation may admit drain gas into dwellings, but they may at the same time admit the rat with its flea. However, the fact that the disease may occur without an inflamed throat suggests that it is the flea and not the gas which carries rheumatic fever.

Infantile Kala-Azar.—Panayotatou reports a case of kala-azar, in a boy, aged 2½ years. Since antimony and potassium tartrate, which is employed in the case of an adult, is not without risk in a young child, owing to the small size of the veins, Panayotatou administered a very weak solution (0.25 Gm. in 100 cc.) by the intestinal route. He first gave 4 cc. of the solution, i. e., 0.01 Gm. (1 cg.) of antimony and potassium tartrate, every other day. After the fifth injection there was already a slight improvement. The temperature was slightly lower, the abdominal enlargement was somewhat less; the child was more cheerful and asked for something to eat. The dose was then increased to 6 cc. of the solution, which was equivalent to 0.015 Gm. of the drug. After four injections of this dose there was an obvious improvement. The spleen was considerably diminished in size, the abdomen smaller and softer, and the appetite better. The dose was then still further increased, first to 0.02 Gm. and then to 0.025 Gm. every other day. The spleen had become almost impalpable, the fever had entirely subsided, the abdomen was soft and the venous network had disappeared. The child received in all 0.5 Gm. of antimony and potassium tartrate in the course of about three months.

Intestinal Toxemic Deafness in Children.—Yearsley reports three cases in which deafness was due to a chronic intestinal intoxication. He says, too, that he has so often found septic tonsils and carious teeth associated with chronic intestinal intoxication that he is forced to the conclusion that the latter is the primary septic focus and the first two are merely secondary.

British J. Exper. Pathology, London

10: 191-236 (June) 1929

Lecithin and Streptococcal Hemolysin. J. Gordon and F. R. Stansfield.—p. 191.
*Skin Regeneration and Cancer. R. J. Ludford.—p. 193.
Tetanus: IX. Oxidation-Reduction Potential of Subcutaneous Tissue Fluid of Guinea-Pig: Effect on Infection. P. Fildes.—p. 197.
Oxygen Requirements of Bacillus Pestis and Pasteurella Strains. H. Schütze and M. A. Hassanein.—p. 204.
Transmissibility to Rabbits of Poliomyelitis Virus. R. W. Fairbrother.—p. 209.

Infectious Myxomatosis of Rabbits. G. M. Findlay.—p. 214.
Electric Charge in Certain Bacteriologic Problems. H. C. Brown and J. C. Broom.—p. 219.
Antibacterial Action of Cultures of Penicillium: Use in Isolation of Bacillus Influenzae. A. Fleming.—p. 226.

Skin Regeneration and Cancer.—Ludford asserts that repeated scarification of an area of the skin of the mouse does not result in an aberration of the process of repair, nor lead to the induction of cancer. An area of the skin that has been the site of repeated injury and repair is not more susceptible to the carcinogenic action of tar than the normal skin.

British M. Journal, London

1: 1147-1190 (June 29) 1929

Present Position of Problem of Psychiatric Pathology. W. F. Menzies.—p. 1147.
*Hemostatic Therapy in Hemophilia. W. W. Payne and R. E. Steen.—p. 1150.
Origins and Treatment of Dyspepsia. L. J. Picton.—p. 1152.
Cavernous Sinus Thrombosis with Recovery. E. A. Seale.—p. 1155.
Prevalence of Encephalitis Epidemica in China. M. O. Pfister.—p. 1156.
*Cerebral Abscess Following Acute Tonsillitis: Case. E. G. Housden.—p. 1158.
Physopyometra with Peritonitic Abscess: Case. F. J. Hector.—p. 1158.
Rat-Bite Fever from Bite of Pig. R. P. Smallwood.—p. 1159.
Excessive Hemorrhage After Tooth Extraction, Due to Acute Leukemia. W. C. D. Walmesley.—p. 1159.

Hemostatic Therapy in Hemophilia.—Payne and Steen report their experience in four cases. They assert that no known agent has any permanent effect in hemophilia. Any improvement in the coagulation time which they found was of a temporary nature. Many of the substances used contained animal protein. It is accepted by most authorities that foreign protein, when injected into the body in sufficient amount to produce some degree of shock, causes a stage of hypercoagulability followed by one of hypocoagulability. In the authors' hands protein shock, by means of typhoid vaccine, peptone and milk, produced the normal type of response—namely, a transient state of hypercoagulability followed by one of hypocoagulability. In no case was the actual fall in the coagulation time at all impressive. The responses obtained from the other hemostatic drugs administered so resembled protein shock as to raise the question of whether their effect on the coagulation time in hemophilia was due to the small amount of animal protein present in each preparation. In every case the response was either one of hypercoagulability followed by hypocoagulability or one of hypocoagulability alone. The only form of treatment that was found to be of any real value was intravenous injection of either citrated whole blood or citrated human plasma; citrated plasma given intraperitoneally or intramuscularly was without effect.

Cerebral Abscess Following Acute Tonsillitis.—Housden reports the case of a youth, aged 18, with no history of previous illness or ear trouble, who developed a severe tonsillitis. On the fourth day the temperature fell to 102, and remained at this level for the following week, with a relatively slow pulse below 100. On the same day he commenced to have rigors once or twice daily for a week, when the tonsillitis began to localize as a peritonsillar swelling on the left side. Two days later ptosis of the left eyelid and a left internal strabismus were noticed, associated with periods of "sleepiness," although the patient was quite rational when roused. He had some headache, aggravated by attacks of coughing coming on at hourly intervals, in which he expectorated a mucopurulent sputum. A few days later he developed rigidity of the neck muscles and a modified Kernig's sign; the left knee jerk was absent, and the right just present; there was a plantar reflex flexor, ptosis of the left eyelid, and internal strabismus of the left eye, with much congestion of the retinal vessels on this side. The throat still showed some peritonsillar swelling on the left side. There was no abnormality in the chest or abdomen. A tentative diagnosis was made of a cerebral abscess or a basal meningitis. Then came a short period of comparative well being when, following an hour's incoherent speech, the patient commenced to have fits. They began by a deviation of the head and eyes to the right, with marked lateral nystagmus and hippus of both eyes. Then followed a clonic convulsion, originating in the right side of the face and spreading to the neck and jaw muscles. Between 6 and 9 a. m. fifteen occurred, and in the more severe ones the convulsion spread to the right and left arms and involved the entire musculature. The knee jerks remained present, and an angle clonus was obtained on the right side. No further fits took place, and the next day he was conscious but at times was "muddled" in his speech. He became very delirious, and then comatose, and rolled his head continually side to side. The temperature was now subnormal, and the pulse rate varied from 54 to 90 a minute. He had become very emaciated. He remained thus for a week. Death seemed the only possible issue, but suddenly he regained consciousness, began to take nourishment, and became quite normal mentally, although a little excited. He improved steadily and was up and around. After three weeks he seemed sleepy, and at 4 p. m. he became unconscious, and remained so until death the next morning, by what was clinically an acute edema of the lungs. A postmortem examination, confined to the brain, revealed an abscess about the size of a walnut in the tip of the left temporosphenoidal lobe, with some adhesions between the surrounding pia mater and dura. There was no sign of bone infection in the skull.

Glasgow Medical Journal

112: 1-64 (July) 1929

Tannic Acid Treatment of Burns. A. J. Hutton.—p. 1.
Radiologic Factor in Diagnosis of Gastric and Duodenal Disease. R. Mailer.—p. 9.
*Influence of Sepsis and Endocrine Disturbance on Carbohydrate Metabolism. D. B. Thomson.—p. 25.
Chronic Nephritis with Hypertension and Retinitis of More Than Nineteen Years' Duration But Without Azotemia or Gross Cardiac Hypertrophy. J. N. Cruickshank.—p. 33.

Influence of Sepsis and Endocrine Disturbance on Carbohydrate Metabolism.—With a view to studying the effect of septic infections and endocrine diseases on carbohydrate metabolism, an investigation was carried out by Thomson by means of the dextrose tolerance test in ten cases of diabetes with sepsis, fifty cases of sepsis alone, thirteen of exophthalmic goiter, and three of pituitary disease, with results which point to the following conclusions: 1. Sepsis aggravates an existing diabetes. 2. Many cases of sepsis show temporarily defective carbohydrate metabolism. 3. Endocrine disturbances, notably exophthalmic goiter, are frequently associated with defective carbohydrate metabolism.

Lancet, London

2: 1-54 (July 6) 1929

Physiology of Glycogen; Rôle of Insulin and Epinephrine in Carbohydrate Metabolism. J. J. R. MacLeod.—p. 1.
Radium Treatment by Implantation of Screened Seeds. J. Muir.—p. 7.
*Cholesterol of Blood Plasma in Epilepsy. M. Gosden, J. T. Fox and W. R. Brain.—p. 12.
*Complications and Mortality of Appendicitis. R. Warren.—p. 16.
Accessory Spleen with Recurring Torsion of Its Pedicle. R. C. Alexander.—p. 21.
Use of Bone Plates in Treatment of Fractures. H. H. Greenwood.—p. 21.
Spasm of Cervix Uteri: Case. L. J. Green.—p. 22.

Cholesterol of Blood Plasma in Epilepsy.—Serial estimations were made by Gosden et al. of the cholesterol content of the blood plasma in twenty-one epileptic patients and five controls, comprising two normal persons and three patients suffering from diseases of the nervous system other than epilepsy. Their results confirm the observation of Robinson, Brain and Kay that the average blood cholesterol level in epileptic persons is subnormal, and that of Popéa and Vicol that it is exceptionally low in status epilepticus and in serial epilepsy. They also found that the blood cholesterol level is more variable in epileptic patients at about the time of a fit than in periods of freedom from attacks; and that in three out of four cases a fall in the cholesterol level preceded an attack, as Robinson, Brain and Kay first observed.

Complications and Mortality of Appendicitis.—Warren feels that appendicitis appears to be developing a more severe character or is more common. The disease shows a considerable variation in its severity, depending on time and place; the mortality in his experience varies from 3 to 10 per cent. Expectant treatment may give good results in certain hands, but as a general measure its advantages are not proved and its wide adoption might lead to further disasters. The mor-

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tality is greatest in children, who are certainly not cases for expectant treatment, owing to the rapid and insidious way in which complications, such as peritonitis, develop in young subjects, and their liability to acidosis from starvation. Early diagnosis and immediate operation are the counsels of perfection, but failure to diagnose early is by no means always the fault of the practitioner, for in children and old people the diagnosis may be quite difficult, and many persons regard a stomach ache too lightly and do not send for the physician till they have developed a well marked peritonitis. The main causes of death are peritonitis and mechanical obstruction; the latter can be very largely prevented by suitable technic at operation, and a careful watch should be kept for this important complication.

Annales des Maladies Vénériennes, Paris

24: 321-400 (May) 1929

Sarcoid Form of Nodular Tertiary Syphiloma. J. Gaté and J. Rousset. —p. 321.
*Antisyphilitic Treatment of Lupus of Face in Congenital Syphilis. Deshayes.—p. 330.
Late Results of Arsphenamine Treatment of Syphilis. F. Fuss.—p. 333.
Rôle of Focal Infection in Secondary Infections of Urinary Tract. Lautman.—p. 335.

Antisyphilitic Treatment of Lupus of Face in Congenital Syphilis.—Deshayes reports a case of chronic extensive lupus of the face in a youth, aged 16, with congenital syphilis. The skin reaction to tuberculin was positive; the Wassermann reaction was negative. Lupus, involving the whole right side of the face and of the neck, began when the patient was 7 years of age and for years remained refractory to various kinds of treatment. However, under the influence of a mixed arsenical and iodide treatment the lesions cicatrized in less than one year.

Archives Médicales Belges, Brussels

82: 297-360 (May) 1929

*Etiology of Nontraumatic Meningeal Hemorrhage. Thoné.—p. 297.
Principles and Physiologic Action of Diathermy. Godin.—p. 304.
Flat Foot in Infantrymen. R. Franck.—p. 329.

Etiology of Nontraumatic Meningeal Hemorrhage.—Thoné reports a case of sudden nontraumatic hemorrhage, occurring four days after an antityphoid vaccination in a previously healthy soldier, aged 20. The patient complained of indisposition and headache in the morning and became comatose the same afternoon. Vomiting, severe cephalalgia, stiffness of the neck, Kernig's sign, high temperature (101 F.) slow pulse and blood in the cerebrospinal fluid were present. Because marked signs of cerebral involvement were not observed, a diagnosis of meningeal hemorrhage was made. The patient eventually recovered. As infection, chronic or acute, was not found in the present or past history of the patient, and as a similar but fatal case was previously observed after an antityphoid vaccination in another soldier, the author thinks that antityphoid vaccination may possibly be a pathogenic factor in the etiology of some meningeal hemorrhages.

Bull. et Mém. de la Soc. Méd. des Hôpitaux de Paris

53: 591-632 (May 20) 1929

Pseudosyringomyelitic Type of Tabetic Foot. T. Alajouanine and M. Bascourret.—p. 591.
Chiray and Thiébaut's Method of Evaluation of Bilirubin in Blood. M. Chiray and F. Thiébaut.—p. 598.
*Cardiac Insufficiency in Gout. E. Doumer.—p. 601.
Cervical Pott's Disease with Tachycardia and Vertigo. C. I. Urechia. —p. 607.
Gumma of Corpus Striatum and Globus Pallidus, Without Extrapyramidal Symptoms. C. I. Urechia.—p. 608.
Acute Fatal Case of Influenza. E. Bernard.—p. 611.
Nervous Complications in Influenza. J. Hallé.—p. 618.
Infectious Arthritis and Congestion of Testes in Influenza. Dargein and Germain.—p. 622.
Rôle of Sex in Influenza. E. Apert.—p. 625.
Exacerbation of Chronic Quiescent Malaria in Influenza. C. Flandin, G. Marchal and L. Langlois.—p. 627.

Cardiac Insufficiency in Gout.—Doumer reports a case of functional cardiac insufficiency, caused by disturbances of the basal metabolism, in a man, aged 55, with a history of recurrent attacks of gouty arthritis. The patient complained of dyspnea on the slightest exertion, generalized itching of the skin and edema of the feet. The pulse rate was increased (92 a minute at rest) but regular. The heart was enlarged (16.4 by 16.5 cm.), with a feeble impulse, faintness of the first heart sound at the apex, and gallop rhythm, but murmurs were absent. The blood pressure was normal. Edema of the feet extended up to the middle of the legs. The amount of uric acid in the blood was increased considerably (13 mg. per hundred cubic centimeters of blood serum); the amount of urea and cholesterol was normal; the Wassermann reaction was negative. Under the influence of rest, an appropriate diet for patients with gout combined with a salt-free diet (because of the edema) and theobromine, ouabain and cinchophen, the patient recovered and did not have a recurrence of either the cardiac insufficiency or the attacks of gout during two years of medical observation.

Bulletins et Mém. de la Soc. Nat. de Chirurgie, Paris

55: 721-765 (June 1) 1929

Intestinal Obstruction by Ascaris. Tisserand.—p. 722.
Laminectomy in Paraplegia in Pott's Disease. P. Delbet.—p. 723.
Gastro-Esophageal Anastomosis with Interposition of Intestinal Loop in Stricture of Esophagus. Tuffier.—p. 727.
Subacute Orchitis from Necrobiosis of Vas Aberrans. L. F. Solier and P. Huard.—p. 730.
Posttraumatic Spondylitis (Kümmell-Verneuil). J. Cuny.—p. 733.
*Use of Sodium Iodide in Arteriography of Lower Extremities. Charbonnel and Masse.—p. 735.
*Acute Diverticulitis of Ascending Colon, Simulating Acute Appendicitis. D. Ferey.—p. 747.
Dissecting Action of High Frequency Knife. Heitz-Boyer.—p. 750.

Use of Sodium Iodide in Arteriography of Lower Extremities.—Charbonnel and Masse report three cases of localized gangrene of the toes in which arteriography after intra-arterial injection of sodium iodide solution gave different results in each case. In one case the results of arteriography were in accordance with the clinical picture and the evolution of the gangrene; in the second case, more precise indications were obtained with arteriography than with any other method of clinical examination; and in the third case arteriography gave a wrong indication concerning the optimum level for amputation. Thus the results of arteriography after the intra-arterial injection of sodium iodide solution were not always more reliable than the results of other clinical methods of examination, as Duval concludes in discussing this method. Furthermore, in reviewing nine cases of arteriography after the intra-arterial injection of sodium iodide and reporting one of his cases, Duval noted the occurrence of more or less grave accidents during the intra-arterial injection of sodium iodide in four of the ten cases: extension of gangrene in two cases, death within two days after the injection in one case, and severe pain, with vascular spasm followed by vascular dilatation on the leg and general symptoms of iodine poisoning, in the case reported by him. He concludes that the idea of obtaining a roentgenogram of the vascular system in vivo is very tempting, but because of the frequent occurrence of accidents and of the absence of the superiority of arteriography after the intra-arterial injection of sodium iodide over the other less dangerous methods of clinical examination, he would hesitate to experiment with this method.

Acute Diverticulitis of Ascending Colon, Simulating Acute Appendicitis.—Ferey reports a case of acute diverticulitis in a woman, aged 26. A sudden onset of nausea and abdominal pain most intense at McBurney's point, and accompanied by muscular resistance in the right iliac region, high temperature and accelerated pulse rate, suggested the diagnosis of acute appendicitis. However, at laparotomy a normal appendix and an inflamed, strangulated diverticulum of the ascending colon, situated 10 cc. above the cecum, were found. The patient recovered without complications after removal of the inflamed diverticulum.

Gazette Hebdomadaire des Sciences Méd. de Bordeaux

50: 321-336 (May 26) 1929

*Innervation of Diaphragm. A. Troitzky.—p. 322.
Relation Between Diseases of Appendix and of Uterine Adnexa. A. Troitzky.—p. 324.

Innervation of Diaphragm.—Troïtzky studied the innervation of the diaphragm by dissection of the nerves supplying it in 130 human cadavers and fifty animal cadavers and by

experimental neurotomy on sixty-five dogs. In all cases the motor nerves were supplied to the diaphragm by the phrenic nerve, whereas the intercostal nerves only passed through the diaphragm, without giving branches to the diaphragmatic muscle, and the nerves of the solar plexus ramified in the subperitoneal tissue on the abdominal part of the diaphragm, without giving branches directly to the diaphragmatic muscle, forming, however, a few anastomoses with the branches of the phrenic nerve. The results of experimental neurotomy on sixty-five dogs confirmed the anatomic data. In twenty-five cases of unilateral phrenicectomy and twenty cases of bilateral phrenicectomy in dogs, a complete paralysis with subsequent atrophy of the diaphragmatic muscle was observed in all the dogs operated on, whereas both results were absent following division of the last six intercostal nerves. The paralysis of the diaphragm did not jeopardize the lives of the dogs, though dyspnea (30 to 40 respirations a minute) on exertion and increased activity of the cervical muscles during respiration were observed in dogs with bilateral paralysis of the diaphragm.

Lyon Chirurgical, Lyons

26: 141-304 (March-April) 1929

*Experimental Transplantation of Uterine Mucosa and of Isolated Uterine Epithelial Cells Into Ovaries. E. Dahl-Iversen.—p. 141.
*Action of Sodium Chloride in Acute Duodenal Obstruction. A. M. Dogliotti and M. Mairano.—p. 166.
Endoscopic Study of Normal and Pathologic Urination. L. Phélip.—p. 189.
Discussion of Testis Graft. H. Velu and L. Balozet.—p. 195.

Experimental Transplantation of Uterine Mucosa and Isolated Uterine Epithelial Cells into Ovaries.—In order to study the nature of endometriosis, Dahl-Iversen transplanted endometrium into the ovaries of twenty-two guinea-pigs. At laparotomy in each guinea-pig, a part of one of the uterine horns was excised and opened and either the epithelial cells were scraped from the uterine mucosa with a knife, placed in Ringer's solution and injected into the ovary (in ten guinea-pigs) or a small piece of the whole thickness of the uterine mucosa was inserted by means of a thin cannula into the ovary (in sixteen guinea-pigs). None of the uterine epithelial cell grafts took, whereas the whole uterine mucosa grafts took in fifteen of sixteen experiments within eight days after the operation. As in endometriosis in women, the endometrial grafts in guinea-pigs developed into multiple cysts covered inside with typical uterine glandular epithelium and surrounded on the outside by smooth muscle fibers (both epithelium and smooth muscle fibers originating from the transplanted whole endometrium), or formed on the surface of the ovaries a flat growth or a polyp composed of normal uterine glands and covered with normal uterine epithelium. However, contrary to what is usually observed in endometriosis in women, there was not observed either congestion and hemorrhage or desquamation of the epithelium in the newly formed cysts during the periods of menstruation.

Action of Sodium Chloride in Acute Duodenal Obstruction.—Dogliotti and Mairano studied the effect of sodium chloride solutions in various concentrations, of dextrose solutions and of water on the variations in the sodium chloride content of the blood and urine in dogs with experimental duodenal obstruction and on the evolution of duodenal obstruction. A progressive lowering of the sodium chloride content of the blood, a rapid disappearance of sodium chloride from the urine and death in from two to three days were observed in dogs to which no fluids at all or only water or concentrated solutions of sodium chloride were administered. The same effect on the blood and urine chlorides was observed following subcutaneous administration to the dogs of 50 cc. per kilogram of their weight of isotonic dextrose solution or of sodium chloride solution; however, these dogs lived from twenty hours to six days longer. Following the combined administration to dogs of from 0.06 to 0.07 Gm. of sodium chloride and 50 cc. of water per kilogram of their weight, the blood chlorides remained almost normal, and the dogs lived the longest (from ten to twelve days). The normal chloride content of the blood in the absence of chlorides in the urine was made possible by the occurrence of vomiting rich in chlorides (up to from 8 to 10 per cent). Thus the authors think that the parenteral administration of a large amount of sodium chloride and water may have a favorable effect on the evolution of duodenal obstruction, probably by lowering the concentration of the toxic products of the impaired basal metabolism and thus preventing or attenuating their morbid effect on the liver cells.

Paris Médical

1: 501-516 (May 25) 1929

Puerperal Psychosis. J. Lévy-Valensi.—p. 501.
*Fatal Subacute Gangrene of Lung Caused by Ingestion of Polluted Water. Montel and Mousseron.—p. 508.
*Iodized Oil in Diagnosis of Sterility in Women. R. Imbert.—p. 515.

Fatal Subacute Gangrene of Lung Caused by Ingestion of Polluted Water.—Montel and Mousseron's patient was a man, aged 27. In the beginning of the disease, there were present only high fever, asthenia, anorexia, vomiting and dulness on percussion of the right lung, with diminished vesicular respiration but without adventitious sounds. An exploratory pleural puncture was negative. Because the patient had had dysentery several years previously, amebiasis of the liver was suspected, and though the physical and laboratory examinations of the digestive tract were negative, emetine treatment was tried, without results. After a few injections of a polyvalent vaccine, the patient felt better and was able to sleep, the fever decreased, the vomiting stopped and the appetite returned. However, fifteen days after admission to the hospital, he suddenly vomited a large amount of reddish brown, extremely fetid, purulent fluid in which a great number of different aerobic and anaerobic micro-organisms and elastic fibers were found. At the same time, signs of a cavity in the middle of the right lung were found at the physical and roentgenologic examinations. The patient died from gangrene of the lung soon after this. Because the disease occurred shortly after the patient had involuntarily swallowed some water, when swimming, the water from the swimming place was examined and in it were found the same types of aerobic and anaerobic micro-organisms as were found in the fluid from the gangrenous lung of the patient. The same results were observed also in experimental inoculations of guinea-pigs with this water and with the sputum of the patient. The intrapulmonary inoculation of a rabbit with this water was followed by the development of peripulmonary and intrapericardial gangrene. All these facts supported the theory of the pathogenic rôle of polluted water in this case.

Iodized Oil in Diagnosis of Sterility in Women.—In a case of obstruction of the ampullar end of a uterine tube, diagnosed by means of roentgenologic examination after an intrauterine injection of iodized oil, Imbert did not find tubal obstruction at laparotomy. A hypodermic needle was introduced into the tube after section of its isthmic part, and water easily passed from a syringe through the tube and dribbled out from the ampulla, though the only pressure that was used on the water was the weight of the plunger of a 2 cc. syringe held vertically.

1: 517-548 (June 1) 1929

Review of Communicable Diseases in 1929. C. Dopter.—p. 517.
*Specific Skin and Intradermal Tests in Aspergillosis. P. Nicaud.—p. 531.
Anticholera Vaccination. A. Urbain.—p. 535.
Treatment of Malaria. P. Decourt.—p. 538.

Specific Skin and Intradermal Test in Aspergillosis.—Nicaud prepared various specific aspergillar antigens from the sputum of patients with pulmonary aspergillosis. The cutireaction and especially the intradermal reaction to these antigens was positive in patients with pulmonary aspergillosis and negative in patients with pulmonary tuberculosis or in normal persons. A positive intradermal test in a case of chronic pulmonary tuberculosis enabled him to detect a mixed tuberculous and aspergillar infection. The local intradermal reaction consisted in an urticarious wheal at the site of the injection of the aspergillar antigen, which appeared in a few minutes after the injection, developed into a nodular induration in several hours and slowly disappeared within two or more weeks, leaving a local pigmentation of the skin. The local reaction was accompanied by a focal reaction consisting of an attack of congestion at the site of the pulmonary lesions with an exacerbation of pain, expectoration and an occasional hemorrhage. The intensity of the reaction increased with the repetition of the test.

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Presse Médicale, Paris

37: 681-696 (May 25) 1929

Evaluation of Cardiac Output by Ethyl Iodide Method. L. Binet and P. Bouthillier.—p. 681.
*Therapeutic Value of Diet Rich in Cellulose. H. Salomon.—p. 683.
Rôle of Leukocytosis in Cicatrization of Wounds. G. Lacapère.—p. 685.

Therapeutic Value of Diet Rich in Cellulose.—Salomon used with good results a diet rich in cellulose in various diseases of the stomach, intestines, liver, kidney, heart, blood vessels, articulations, skin, nervous system (migraine, neuralgias) and even pulmonary tuberculosis. By a diet rich in cellulose he means a mixed diet that has for its base at least from 200 to 300 Gm. of rye bread and from 0.75 to 1.5 Kg. of raw nonpared fruits. Not only are the intestinal peristalsis and the bulk of the stool increased under the influence of such a diet, but there is an increase in the secretion of urobilinogen and urobilin, of cholesterol and lecithin and of the residual mineral ash. Thus the author thinks that the effect of the diet rich in cellulose is like that of any irritation therapy (Reiztherapie), modifying and increasing various cellular functions.

37: 697-716 (May 29) 1929

Roentgenography of Tuberculous Perilobulitis. E. Sergent.—p. 697.
Bullous and Pustular Skin Eruption in Iodism, Complicating Antivariolar Vaccination. P. Pagniez and A. Ravina.—p. 699.
*Aseptic Gangrene of Foot Caused by Indelible Pencil. P. Wilmoth.—p. 700.
Practical Gastroscopy. P. Michon.—p. 702.
*Results of Gold Thiosulphate and Sodium Thiosulphate Treatment of Pulmonary Tuberculosis. L. Bernard and C. Mayer.—p. 705.

Aseptic Localized Gangrene of Foot Caused by Indelible Pencil.—Wilmoth reports a case of aseptic localized gangrene of the right foot in a girl, aged 13, who stepped on an indelible pencil while walking barefoot. The point of the pencil perforated the skin, broke off and was left in the tissues, not causing any immediate discomfort. Ten days later, however, a swelling and a bluish discoloration of the skin appeared and within six weeks moist localized gangrene developed at the site of penetration of the indelible pencil under the skin. The dead tissues and the discharge from the ulceration were purple and dark blue. Symptoms of general aniline poisoning were not observed. The necrosed tissues were excised and the wound cicatrized in forty days.

Results of Gold Thiosulphate and Sodium Thiosulphate Treatment of Pulmonary Tuberculosis.—From the results of the gold thiosulphate and sodium thiosulphate treatment of 142 patients with febrile active pulmonary tuberculosis and twenty-nine patients with chronic afebrile pulmonary tuberculosis, Bernard and Mayer come to the conclusion that, while the thiosulphate salts do not possess specific bactericidal properties, they do check the evolution of pulmonary tuberculosis and later provoke regressive sclerotic processes in the diseased lungs. With weekly doses of 0.25 Gm. in chronic cases and from 0.25 to 0.75 Gm. in acute cases, or during the attacks of exacerbation in the chronic cases, no complications were observed in the patients, of whom 43 per cent with the acute febrile type of pulmonary tuberculosis were greatly relieved and could resume their occupations, whereas the evolution of the tuberculosis was checked in only 5 per cent of 1,541 patients to whom thiosulphate salts were not administered. The same favorable inhibitory effect was observed in the treatment of chronic afebrile cases of pulmonary tuberculosis.

37: 717-732 (June 1) 1929

Surgical Technic of Gastropyloroduodeno-Enterostomy. P. Delbet and de Vadder.—p. 717.
*Experimental Study of van den Bergh Blood Bilirubin Reaction. H. Hayashi.—p. 720.
*Evolution of Hyperthyroidism into Hypothyroidism Under Influence of Iodine. L. Dautrebande.—p. 721.

Experimental Study of van den Bergh Blood Bilirubin Reaction.—Hayashi observed a delayed van den Bergh blood bilirubin reaction in cases of hemolytic jaundice as compared with cases of obstructive jaundice, though the amount of bilirubin in the blood was equal in the two types of jaundice. Experimentally, on the addition of bilirubin to blood serum in which the original bilirubin had been destroyed by exposure to sunshine, a rapid van den Bergh reaction was observed in the blood serum from normal dogs or from dogs with obstructive jaundice, whereas a delayed van den Bergh reaction was observed in the blood serum from dogs with hemolytic jaundice. The origin of the bilirubin added had no influence on the reaction. A suspension of stroma of erythrocytes was injected intravenously into normal dogs. The van den Bergh reaction was rapid in the blood serum from the dogs before the injection of the stroma suspension and delayed after the injection. The same effect of the stroma on the rapidity of the van den Bergh reaction that was observed in vivo was observed in vitro. The author thinks that this inhibitory effect of the stroma of erythrocytes on the van den Bergh reaction may explain the delayed reaction in hemolytic jaundice, because hemolytic jaundice was produced experimentally by the intravenous injections of erythrocytes, thus introducing into the organism an excess of the stroma of erythrocytes. On the other hand, bile acids do not modify the rapidity of the van den Bergh reaction, because taurocholic acid added to blood serum accelerates the reaction only when its concentration is at least 1 per cent, whereas the blood serum, even in retention icterus, rarely contains more than 25 mg. of bile acids per hundred cubic centimeters.

Evolution of Hyperthyroidism into Hypothyroidism Under Influence of Iodine.—Dautrebande reports an interesting case of a peculiar type of exophthalmic goiter that developed within the last three years in a previously healthy youth, aged 20. A peculiar combination of marked exophthalmos, tachycardia (100-120), increased basal metabolism (+ 30 per hundred) and loss of weight with a colloidal aspect of the goiter (size of two fists), acrocyanosis and signs of cretinism were observed on physical examination. During three months of ambulatory iodine treatment the patient gained 8 Kg., the exophthalmos and the size of the goiter decreased considerably, the basal metabolism became — 26 per hundred, the pulse rate dropped to from 56 to 64, and, paradoxically, at the same time that hypothyroidism took the place of hyperthyroidism, the large soft smooth colloidal type of goiter assumed the aspect of a much smaller, hard and nodular adenomatous goiter, and the mental condition of the patient improved considerably.

Pediatria, Naples

37: 283-342 (March 15) 1929

*Subcutaneous Administration of Dextrose in Grave Intoxications of Alimentary Origin and in Atrophy of Infants. G. Macciotta.—p. 283.
Researches on Active and Passive Immunization Against Diphtheria in the Guinea-Pig. D. Blasi.—p. 312.
Observations on a Case of Fibrillation and Auricular Acceleration in a Child. M. Gerbasi.—p. 317.
Renal Calculosis with Gastralgic Syndrome. A. Zallocco.—p. 325.

Subcutaneous Administration of Dextrose in Grave Intoxications of Alimentary Origin.—Macciotta has found that in grave toxic manifestations of alimentary origin in infants, accompanied by hypoglycemia, the introduction of isotonic and hypertonic dextrose solutions has a marked therapeutic value, both immediate and remote, and will often save the life of the child. Good results are likewise obtained from the treatment in atrophy and in marked wasting of the body due to alimentary causes, provided the organic metabolic capacity and the mechanism of glycoregulation are not irreparably impaired.

Riforma Medica, Naples

45: 349-379 (March 16) 1929

Mixed Infections in Typhoid. F. Peola.—p. 351.
*Ox Bile as Antigen in Seroreaction of Syphilis. G. Castellino.—p. 352.
Wide Opening of Botallo's Foramen with Syndrome of Mitral Defect. M. Pelicelli.—p. 353.
Resistance of Hemoglobin in Clinical Applications. H. Bischoff.—p. 355.

Ox Bile as Antigen in Seroreaction of Syphilis.—Castellino has tried out Michaelides' seroreaction test for syphilis, in which ox bile is used as antigen, and reports that the antigen is easily prepared, keeps well, is clear, maintains for a long time the titrated dosage and appears to equal in value the extracts of normal animal organs that are commonly used for seroreaction tests designed to supplement the Wassermann test.

45: 382-415 (March 23) 1929

Researches on Oncotic Pressure of Blood Serum. M. Cori.—p. 383.
*Experimental Study on Cholecystoduodenostomy. A. G. Chiariello.—p. 391.
*Radaeli's Bacillus and Pemphigus. E. Antoniazzi.—p. 396.

Experimental Study on Cholecystoduodenostomy.—Chiariello concludes that cholecystoduodenostomy by the intra-

parietal route (Lambret) is an operation that assures drainage of the biliary tract when it is partially or totally obstructed. The operation does not present any great difficulty. This type of cholecystoduodenostomy is, furthermore, an operation that protects against the reflux of the gastric contents into the biliary tract. The author's experiments on dogs confirmed the conceptions that induced Lambret to advise his modifications of cholecystoduodenostomy, which in the clinic have given good results.

Radaeli's Bacillus and Pemphigus. — Antoniazzi recalls that, from 1906 to 1910, Radaeli took up the study of the etiology of pemphigus, and in five out of six cases he was able to cultivate from the cadavers (the spleen, the bone marrow, the liver and the blood) a small bacillus, which for various reasons he regarded as the etiologic agent of pemphigus. The same bacillus was isolated twice by Pasini in 1911 from the cadavers of seven patients with pemphigus, although the cultures in the living subjects were never positive. In 1914, Copelli isolated the bacillus in three cases of pemphigus, not only in the cadavers but also in the living subject. From the fact that Antoniazzi found the Radaeli bacillus present in a case of erythrodermia, he thinks that this bacillus is, in all probability, only an achromogenic, pyocyanogenic organism, and is not the etiologic agent of pemphigus. He admits that his deductions from a single case are of course not conclusive.

45: 417-447 (March 30) 1929

Subdiaphragmatic Abscess as a Late Complication of Appendicitis. D. Giordano.—p. 419.
*Gastric Leukopedesis in Gastric Disorders. A. Gentili.—p. 421.
Oncogenetic Significance of Trauma of Testis. F. P. Doneddu.—p. 424.
Syphilitic Fever with Secondary Manifestations and Constantly Negative Wassermann Reaction. C. Melani.—p. 429.
Cancer of Breast and Preferred Methods of Extirpation. E. Aievoli. —p. 431.

Gastric Leukopedesis in Gastric Disorders.—Gentili concludes from his researches that the marked diminution of leukopedesis found in patients with gastric ulcer, and, on the contrary, the marked increase of leukopedesis noted in subjects with cancer of the stomach, furnishes valuable aid, taken with other researches, in the differential diagnosis between the two conditions. The test will serve also to distinguish peptic ulcer from an ulcer of neoplastic origin, since, in the latter condition, there is as in cancer an increase of gastric leukopedesis.

Rivista di Clinica Medica, Florence

30: 105-152 (Feb. 15) 1929. Partial Index

*Value of Boltz's Test on Cerebrospinal Fluid. G. Daddi.—p. 141.

Value of Boltz's Test on Cerebrospinal Fluid.—Daddi says that Boltz's test deserves special attention because of its simplicity. It gives positive results in all cases in which the Wassermann test, the Lange and the Nonne-Apelt tests give positive results, but it may also give positive results in cases in which the other tests do not. The author performed the Boltz test on forty-one patients who had various diseases of the nervous system. His results confirmed the belief that the test is not specific for paresis or for congenital syphilis. Though it gives positive results in most cases, it also gives positive results in many other morbid conditions of the central nervous system, such as meningitis and encephalitis. The author used dimethylaminobenzaldehyde. The use of this aldehyde showed that the reaction depends on the presence of a body of the aldehyde group and that the reagent is the tryptophan and not the cholesterol.

Revista Medica Cubana, Havana

10: 697-834 (June) 1929. Partial Index

*Hemorrhages During Prostatectomy: Treatment by Pressure. R. Stincer. —p. 711.

Hemorrhages During Prostatectomy: Treatment by Pressure.—Stincer says that as complications of prostatectomy, late hemorrhages are rare, secondary hemorrhages are more frequent, and the most fearful and serious hemorrhages are those which appear immediately after the operation. To control the last mentioned type of hemorrhage, packing has been considered the best treatment; it, however, causes intense pain. The author favors direct pressure on the bleeding surfaces as the best method for checking these hemorrhages. After enucleation of the adenoma, a large gauze pad is placed in the bladder so as to exert pressure on the cavity left by the removal of the gland. Another piece of gauze, moistened in a 1 per cent solution of mercuric oxycyanide, is placed in the cavity as the first piece is removed. With two fingers in the bladder and two fingers in the rectum, firm pressure is made on the bleeding surfaces for two or three minutes, or longer if necessary. When the second piece of gauze is withdrawn, the hemorrhage is usually checked. This simple procedure has given good results in all prostatectomies performed by the author in the last few years.

Semana Médica, Buenos Aires

36: 1061-1132 (May 2) 1929

*Phrenicoparietal Syndrome. P. Cossio, Jr.—p. 1061.
*Extramembranous Pregnancy. R. Schwarcz.—p. 1107.
Asthma of Malarial Origin. A. Navarro and J. J. Spangenberg.—p. 1111.
Technic of Blood Transfusion. F. Galtieri and A. Rochaix.—p. 1114.
Vomiting in Early Childhood: Cyclic Vomiting with Acetonemia. E. A. Beretervide.—p. 1116.
Coprology in Surgical Clinic: One Hundred Observations. D. del Valle, Jr., R. E. Dónovan and C. Rechniewski.—p. 1123.

Phrenicoparietal Syndrome.—Cossio says that the phrenicoparietal syndrome is of diagnostic value. He prefers this term to others which are confusing. Visceral reflexes originating in the diaphragm produce the symptoms that constitute the phrenicoparietal syndrome. The syndrome has been considered as the "image" of an endothelioma situated in the diaphragm, though it may be caused by other processes, localized in the diaphragm, such as tuberculosis, neoplasms, subphrenic abscesses or diaphragmatic peritonitis. In the diseases that are localized in the central portion of the diaphragm the viscerosensory reflex produces pain at the base of the affected region of the thorax; the visceromotor reflexes produce pleurothotonus, spastic scoliosis, descent of the diaphragm, asymmetry of the abdomen and retraction of the thorax, and the viscerotrophic reflexes produce muscular atrophy in the corresponding regions. The author reports six fatal cases, in patients aged from 40 to 53. Three of these patients had an endothelioma situated in the diaphragmatic pleura and three had other neoplasms in the same region.

Extramembranous Pregnancy.—Schwarcz's patient, aged 32, had had hydrorrhea and metrorrhagia, probably caused by trauma, in the first months of pregnancy. Then the fetal movements ceased. In a cesarean section a dead fetus, with malformations of the head and clubfoot, together with a placenta marginata, was delivered. It was obvious that the rupture of the membranes had occurred about two months before the intervention, and that the fetus, in that time, had continued to develop outside the membranes. The early rupture of the membranes in pregnancy usually causes abortion or premature delivery, rarely an extramembranous pregnancy. The appearance of hydrorrhea or hemorrhage in the first half of pregnancy suggests the occurrence of extramembranous pregnancy. Diminution in the size of the uterus, lack of resistance of the uterine walls, cessation of the fetal movements and of abdominal ballottement, and the perception of an exposed fetal part (when intra-uterine touch is possible), confirm the diagnosis. The author believes that abortion should be induced as soon as one is certain of extramembranous pregnancy. Expectant treatment imposes on the mother unjustified sacrifices in order to prolong a pregnancy in which, sooner or later, the outcome will be either abortion or premature delivery, and the fetuses in these cases regularly have malformations.

36: 1133-1208 (May 9) 1929

New Apparatus for Study of Nystagmus Produced by Rotation. H. Zubizarreta.—p. 1133.
*Use of Oxygen in Treatment of Carbuncle and of Furuncle. E. P. Fidanza and F. Carrillo.—p. 1145.
*Fractures of Humerus: Airplane Splint. J. Dellepiane Rawson.—p. 1150.
Vomiting with Acetonemia in Early Childhood. J. M. Macera and T. Negri.—p. 1155.
Microscopic Changes in Choroid Plexus in Dementia Praecox. A. M. Sierra.—p. 1164.
Pelvic Hematocele. A. Guitarte and L. P. Costa.—p. 1168.
Trauma of Thorax Caused by Accident: Medicolegal Report. R. Broucá. —p. 1172.
*Original Method for Giving Castor Oil. P. Rueda.—p. 1175.
Impaction of Foreign Body in Anus. E. D. Dallas.—p. 1175.

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Use of Oxygen in Treatment of Carbuncle and of Furuncle.—The work done by Fidanza and Carrillo in twenty-nine cases shows that oxygen, when injected into a carbuncle or a furuncle, gives excellent results. The oxygen should be injected under moderate pressure for three or four minutes. This expels the toxic products of the necrotic destruction of the tissues. While the injection is being made, the openings through which the gas escapes should be covered with a piece of gauze to avoid dissemination of the pus. The presence of oxygen in the tissues is manifested by a bright red hue. After the injection, a piece of gauze, moistened with hydrogen dioxide, is applied. The treatment may be repeated two or three times a day, if necessary. The pain disappears at the first injection, and the fever is lessened; a crucial incision is avoided and the scar is small.

Fractures of Humerus: Airplane Splint.—Dellepiane Rawson presents a review of several airplane splints used in fractures of the humerus. He believes that most of these splints are ineffective. The author presents a new splint for this type of fracture, in three different sizes. The splint acts on the fracture by continuous extension, abduction and external rotation, which may be regulated. It has the advantages, the author says, of perfect adaptation to the trunk, and of stability of the position in which the limb is placed, and it may be adapted to both arms. After the injection of a 2 per cent solution of procaine hydrochloride at the level of the fracture, the arm is fixed in the splint. The extension, abduction and external rotation needed are supplied.

Original Method for Giving Castor Oil.—Rueda's method consists in the addition of 20 or 30 Gm. of castor oil to a cup of the hottest broth that can be drunk. The broth is prepared in the usual manner. The taste of the castor oil is not perceptible. The method is not suitable for very young children.

Siglo Médico, Madrid

83: 685-716 (May 11) 1929

Chemistry of Stomach in Andalusia. F. Fernandez Martinez.—p. 685.
*Influenzal Bronchitis and Ventricular Insufficiency in Patient with Essential Hypertension: Vascular Psychosis. A. Garcia Dominguez.—p. 691.
Some Interrelations of Sexuality, Reproduction and Internal Secretions. O. Riddle.—p. 692.

Influenzal Bronchitis and Ventricular Insufficiency in Patient with Essential Hypertension.—Garcia Dominguez's patient, aged 69, presented an influenza syndrome associated with respiratory, cardiac and renal disturbances and a transitory psychosis. The patient had an essential hypertension of long duration, which was discovered when acute bronchitis increased the work of the heart, already altered. Bleeding was contraindicated by the patient's age and so sixteen leeches were applied. Next day, an intravenous injection of ouabain was given. The injection was repeated twice. This treatment, combined with a diet low in protein and restricted in quantity and liquid, gave good results. Six days later, however, a crisis, as severe as the previous one, developed, as a result of the fact that the patient left his bed before complete cardiac compensation took place, and ate meat. Absolute rest in bed, diet and the administration of digitalis and theobromine led to recovery. At intervals, iodides also were given.

Archiv für Gynäkologie, Berlin

136: 213-416 (April 24) 1929

Results of Irradiation in Cancer of Uterus. F. Voltz.—p. 213.
Relations Between Chorion Epithelioma and Blood Vessels. H. Nevinny.—p. 229.
*Treatment of Dysmenorrhea. R. Joachimovits.—p. 301.
Physiology and Pharmacology of Circulation in Umbilical Cord. M. Baur, H. Runge and H. Hartmann.—p. 319.
*Physiologic High Blood Pressure of Pregnancy. E. Strassmann.—p. 345.
Periodic Changes in Epithelium of Human Vagina. H. Gisbertz.—p. 362.
*Mineral Content of Blood in Benign and Malignant Tumors. A. Schepetinsky and M. Kafitin.—p. 379.
Prognosis in Intraligamentary Pregnancy. J. Batisweiler.—p. 388.
*Reciprocal Relations Between Ovarian Function and Mineral Content of Blood. A. Schepetinsky and M. Kafitin.—p. 397.
Physical Chemistry of Cerebrospinal Fluid in Gynecologic Diseases. A. W. Hochloff.—p. 407.

Treatment of Dysmenorrhea in Patients with a Small Uterus.—In these cases Joachimovits recommends packing the uterus with strips of gauze. In infantile rigidity of the cervix, dilation of the cervix sometimes gives relief for a few cycles. In patients with vasomotor disturbances, pressure on the abdominal aorta usually gives temporary relief from the pain.

Physiologic High Blood Pressure of Pregnancy.—In a study of the blood pressure in 230 pregnant women, Strassmann found that high blood pressure occurred frequently in women in whom the course of pregnancy and the puerperium was normal. He therefore concludes that high blood pressure in pregnancy is physiologic. He believes that it is an accommodation phenomenon caused by the increased physical and chemical requirements on the part of the pregnant woman.

Mineral Content of Blood in Benign and Malignant Tumors.—In examinations of the blood serum of sixty women with fibroma and sixty women with cancer, Schepetinsky and Kafitin found that in fibroma the calcium content is usually at the same level as in normal women. Removal of the fibroma is followed by an increase in the calcium content of the blood; the upper limit of the normal calcium content, however, is not exceeded. In a small number of cases the calcium content of the blood in fibroma is slightly increased; in these cases removal of the fibroma results in a return of the calcium content to normal. In cancer the calcium content is usually within the range of normal; in a small percentage of cases a slight increase is demonstrable. In fibroma the potassium content of the blood serum is within the normal limits in 65 per cent of the cases; in 35 per cent of the cases it is slightly decreased. Following removal of the fibroma the potassium content increases in the cases in which it was decreased before the operation. In cancer the potassium content is usually normal. In fibroma the phosphorus content usually varies within the normal limits; in cancer it is considerably decreased in 70 per cent of the cases. Sodium and chlorine occur in the blood serum in normal amounts in fibroma and cancer.

Reciprocal Relations Between Ovarian Function and Mineral Content of Blood.—In a study of the calcium, potassium, sodium, phosphorus and chloride contents of the blood serum in the various phases of menstruation in sixty healthy women aged from 19 to 30, Schepetinsky and Kafitin found that in the premenstrual period the calcium content is increased slightly but not beyond the upper limit of normal; during menstruation the calcium content varies within normal limits. The potassium content shows an increase in some cases during menstruation. The content of inorganic phosphorus remains within the normal limits in the premenstrual period and during menstruation. The sodium content is markedly diminished and the chloride content is relatively low during the menses. In primary and in secondary amenorrhea (hypofunction of the ovary), the calcium, phosphorus, sodium and chloride contents are normal and the potassium content is considerably decreased. In the climacteric the calcium, potassium, inorganic phosphorus and sodium contents remain normal but the chloride content is decreased.

Archiv für klinische Chirurgie, Berlin

155: 181-363 (April 25) 1929

*Umbilical Calculus. W. Kausch.—p. 181.
Intestinal Infection with Para-Anthrax Bacillus and Secondary Gas Edema. W. Löhr.—p. 188.
Principal Action of Hormones of Regeneration. R. Fränkel.—p. 215.
*Transplantation of Synchondrosis. T. Fohl.—p. 232.
Traumatic Separation of Epiphysis. E. Gold.—p. 244.
Roentgen Therapy of Tumors of Vertebrae, Especially Sarcoma. O. Kingreen.—p. 283.
Granulation Tissue of Tuberculous Fistulas of Bone. N. A. Gurewitsch.—p. 289.
Formation of Accessory Bladder in Case of Complete Sequestration of Tuberculous Prostate. H. Boeminghaus.—p. 298.
Circulating Proteins in Blood in Endemic Cretinism. F. Starlinger.—p. 308.
*Castration as Treatment of Some Psychic Disturbances of Sexual Nature: Results. S. Kartai.—p. 324.
Recurring Retroperitoneal Lipoma. I. G. Hosemann.—p. 336.
Idem: II. W. Lang.—p. 349.

Umbilical Calculus.—Eleven cases of umbilical calculus are reported by Kausch for the purpose of directing attention to a condition that usually is not detected. He saw his first case only three years ago, and the discovery of the stone was wholly accidental. In fact, in none of the eleven cases was the umbilical stone detected primarily. The youngest patient was 17; the oldest, 87. The size of the stones varied from 0.7 to 2 cm. in length and corresponding diameter. The heaviest

stone weighed only 1.16 Gm. Only two of the patients were men. A deep umbilical fossa is essential to stone formation. Symptoms are seldom manifested, except such as result from irritation of the surrounding tissue. In the author's first case, a suspicion of carcinoma metastasis in the umbilicus led to finding the stone. He advises in all cases physical examination that should include a separation of the edges of the umbilicus and an inspection of the sulcus.

Transplantation of Joint Cartilage.—Fohl reports his experiments on the growth promoting properties of transplanting synchondroses. He found that growth of bones in length occurs just as well when only the joint cartilage is transplanted as when portions of the diaphysis or epiphysis are included. It is essential to good results only that one of the surfaces of the cartilage is in good contact with the surface to which it is transplanted.

Castration for Sexual Perversions.—Kartal reports nineteen cases of all sorts of sexual aberration or perversion in males in which castration led to a complete restoration to normal. Even the patients were satisfied with the result. The youngest was 21; six were less than 30; five were between 30 and 35; three were more than 50. He advises that in cases of psychic disturbances resulting from sexual irregularities, castration should be performed without hesitation regardless of the age of the patient.

Beiträge zur klinischen Chirurgie, Berlin

146: 185-382 (April 6) 1929

*Tetany Following Change of Wound Dressings and Anesthesias. A. Salomon.—p. 185.
*Fracture of Vertebral Spine Result of Muscle Action. W. Boss.—p. 194.
Historical Sketch of Laryngology and Surgery. R. Kayser.—p. 201.
Dangers and Value of Biopsy. E. Batzdorfi.—p. 207.
Recurrence of Salivary Calculus. W. Boss.—p. 222.
*Is the Death Rate from Cancer Increasing? S. Hadda.—p. 232.
*Surgical Treatment of Anterior Dislocation of Head of Radius. R. Sommer.—p. 265.
Pathology of Islands of Langerhans. G. Jorns.—p. 269.
Surgical Treatment of Bilateral Nephrolithiasis. E. Kraas.—p. 319.
Trauma of Carpus (Wrist Joint): Results of Conservative Treatment: Anatomic and Functional Status. F. Schnek.—p. 333.

Tetany Following Changing of Dressings.—Salomon is of the opinion that tetany is the result of a constitutional congenital anomaly which entails disturbances in mineral metabolism and of the endocrine glands, especially of the parathyroids, manifested by insufficient regulation of functions and a permanent irritability of the nervous system. Persons affected in this manner easily become the victims of psychic shock sustained by the changing of dressings, the making of injections or punctures, the taking of an anesthetic or any other emotional disturbance. This psychic shock may lead to sudden attacks of tetany. This variety of aparathyroprivic tetany differentiates from the classic parathyropriva by the fact that these glands have not been traumatized; hence the attack is of short duration and not of great severity. There is no tendency to chronicity. Death occurs only when the underlying condition has been of great severity or seriousness, as in peritonitis and ileus. In such cases the occurrence of tetany is a very bad prognostic sign. The author feels that too little heed is paid to this form of tetany and that surgeons and textbooks should direct special attention to it.

Fracture of Spine of Vertebra Through Muscle Action.—Boss reports one case, said to be the fourteenth on record. A young man with very well developed musculature shoved off a heavy truck and immediately felt sharp pain in the upper part of the back. Roentgen examination disclosed a fracture of the spinous process of the first dorsal vertebra. The following day, while shoveling sand, he felt a distinct crackling at the point of painfulness. He was unable to raise his arm beyond the horizontal position. Rest in bed for two weeks restored normal conditions, although a painful pressure spot at the site of the fracture persisted. The author is convinced that the cause of the fracture was muscle action, and suggests that doubtless such fractures are very common in athletes but are not recognized because the symptoms are not of such a nature as to incapacitate the patient. Nevertheless, unpleasant sequelae may result, and therefore all complaints of this sort should receive thorough investigation.

Is the Mortality Rate of Cancer Increasing?—A study of the mortality statistics of the city of Breslau for the past twenty years has convinced Hadda that the increase in the death rate is only an apparent one. The greater duration of life is closely connected with these figures. With the increase in age, the number of cancer deaths increases.

Treatment of Anterior Dislocation of Radius.—Sommer removes a strip of fascia measuring 15 cm. in length and 3 cm. in width from the fascia lata of the left thigh. With the aid of a Kocher director this strip is passed through the attachment of the brachioradialis muscle, encircling the radius immediately beneath its head. The two ends of fascia are sutured together on the external surface of the muscle. Thus, only pronation and supination of the radius are possible. The ulna is not included in the reposition; hence its movements are not affected.

Klinische Wochenschrift, Berlin

8: 913-960 (May 14) 1929

Similarity of Changes in Muscle in Fatigue and Death. G. Embden.—p. 913.
Studies in Biochemistry of Skin Diseases. G. Stümpke and G. Soika.—p. 917.
Sensitiveness of Preparation of Biologically Active Iron Toward Electric Light. F. K. T. Schwarz.—p. 923.
Hydrogen Ion Concentration of Perspiration. A. Marchionini.—p. 924.
Chemical Nature of Allergens: III. Pollen of Alopecurus (Fox-Tail Grass). L. F. Loeb.—p. 926.
Interstitial Neuritis: Progressive, Hypertrophic Neuritis. A. Slauck.—p. 927.
*Studies on Low Arterial Pressure: V. Hypotension in Various Diseases and "Hypotonic Syndrome." F. Kisch.—p. 929.
Peculiar Proliferating Formation in Nasal, Pharyngeal and Oral Cavity. E. J. Kraus.—p. 932.
*Sugar Content of Blood in Patients with Cardiac Diseases. M. Chasanoff.—p. 934.
Uniformity of Effect of Immune Bodies (Dehydration). L. Reiner.—p. 936.
Experimental Studies Concerning Resorption of Insulin. E. Kolta and J. Pogány.—p. 937.
Interpretation of Roentgenograms in Intracranial Calcification. L. Auerbach.—p. 937.

Studies in Low Arterial Pressure: V. Hypotension in Various Diseases and "Hypotonic Syndrome."—Kisch reports on investigations concerning hypotension. Examination of 28,600 patients revealed that, among this number, there were 1,967 persons, or 6.88 per cent, with hypotension. The author classifies these patients into three groups. The first group comprises patients with cardiac and circulatory disturbances. The second group consists of those patients in whom a disintegration of cells takes place. It is assumed that among the products of disintegration there are substances, histamine for instance, which by their presence in the blood reduce the pressure. To this second group belong patients with pulmonary tuberculosis, malignant tumors, gastric and duodenal ulcers, pernicious anemia, herpes zoster and urticaria. The third group represents those patients in whom hypotension is constitutional. Many of these persons show a tendency to swellings in the lymphatic apparatus. In many of these patients the sugar content of the blood is reduced. Usually they are asthenic and easily fatigued. It has also been observed that the mortality among patients with hypotension is comparatively low. They often reach an advanced age. The author also mentions the familial occurrence of hypotension. Examinations of healthy persons, which were made by Barach, revealed that 3.5 per cent had low arterial pressure.

Sugar Content of Blood in Patients with Cardiac Diseases.—Chasanoff studied the carbohydrate metabolism in patients with heart disease. He tested the sugar content of the blood in sixty-six persons; seventeen were healthy and forty-nine suffered from cardiac disturbances. The author arrives at the following conclusions: 1. In case of defect of the cardiac valves, the sugar content of the blood is low. 2. The lowest blood sugar values are noted in cases of serious defects of the cardiac valves. 3. In cardiosclerosis with cardiac insufficiency the sugar content of the blood is normal. 4. Following the dextrose tolerance test, the curve indicating glycemia rises and falls slowly in those patients with defects of the cardiac valves. The maximal elevation of the curve is somewhat higher in these patients than in normal persons. 5. This glycemia curve indicates a sluggish function of the islands of Langerhans. 6. The sluggish action of the islands of Langerhans, together with the

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tendency toward hypoglycemia, indicate that in the organism of patients with defects of the cardiac valves there are factors that are antagonistic to insulin.

Medizinische Klinik, Berlin

25: 737-776 (May 10) 1929

Causes of Sterility. W. Benthin.—p. 737.
Clinical and Therapeutic Conclusions from Aschoff's Studies on Peptic Injuries of Gastro-Intestinal Tract. I. Boas.—p. 742.
*Treatment of Tapeworm in Children. P. Karger.—p. 745.
"Silent" Uremia. F. Reiche.—p. 746.
*Inflammation of Female Genitalia Caused by Contact with Children Suffering from Vaccination Rash. K. Fischer.—p. 748.
*Muscular Dystrophy Following Encephalitis. P. Schilder and M. Weissmann.—p. 748.
Operative Reconstruction of Destroyed Lacrimal Excretory Apparatus. K. W. Ascher.—p. 749.
*Familial Enlargement of Thyroid, Developing After Migration into Different Locality. R. Weinberger.—p. 750.
Epidemic of Acute Anterior Poliomyelitis in Komotan-Görkau. M. Lévai.—p. 751.
*Distribution of Blood Groups Among Patients with Leprosy in Livonia. M. Weidemann and A. Kaktin.—p. 751.
Diseases of Conjunctiva. K. Vogelsang.—p. 752.

Treatment for Tapeworm in Children.—Karger points out that in children the expulsion of tapeworms is more difficult than in adults. Small doses of an anthelmintic extract do not kill the tapeworm. Consequently the medicament has to be given in comparatively large quantities. However, on account of the poisonousness of the anthelmintic extract, the physician often hesitates to give children the large doses that are required. Because an effective laxative is of the greatest importance for the success of the cure, the author advises that the effectiveness of purgatives be tested on the child before the treatment proper is begun. Vomiting the anthelmintic extract is another difficulty which is often encountered. With a duodenal sound many of these difficulties can be avoided. The head of the tapeworm is generally in the upper part of the small intestine. If the medicament is introduced through a duodenal sound, it works immediately on the vital part of the tapeworm. This circumstance explains the good results of this treatment. The sound is introduced through the nose. At first it is rolled up in the stomach. After about four hours, it has entered the duodenum. As soon as this has been accomplished, from 5 to 6 Gm. of an extract of aspidium is introduced through the sound. In order to facilitate the flow, the extract may be diluted with the same amount of lukewarm water. After that the purgative is given. In order to avoid vomiting it is advisable not to remove the sound immediately. Less than two hours later, the tapeworm is expelled. The author asserts that this method is effective in nearly all cases, and it does not involve special difficulties.

Inflammation of Female Genitalia Caused by Contact with Children Suffering from Vaccination Rash.—Inflammation of the outer genitalia was observed by Fischer in a woman, aged 34. The anamnesis reveals that her three children had been vaccinated recently. In the youngest child, who slept with the mother, the vaccination lesion had suppurated. For several days the woman had felt a strong itching sensation on the vulva. An inflammation developed which was followed by edema and ulceration. Following applications of matricaria and dressings with ointment, the patient recovered quickly.

Muscular Dystrophy Following Encephalitis.—Schilder and Weissmann report the cases of two young men, aged 25 and 19, respectively, who several years previously had had encephalitis. One of them complained that lately he had noticed a sensation of fatigue in the right arm. Examination revealed hypertrophy of the shoulder girdle, particularly of the right deltoid muscle. The other patient complained of frequent headaches. His walk was difficult and waddling. However, when he ran the disturbance was less noticeable. The left quadriceps showed marked enlargement, and the right deltoid muscle was larger than the left. The behavior of both patients indicated minor psychic abnormalities. The authors assume that in these cases the trophic nerve centers that are located in the thalamencephalon had been affected by the encephalitis.

Familial Enlargement of Thyroid Developing After Migration into Different Locality.—Three sisters, aged 50, 55 and 60, noticed enlargement of the thyroid shortly after they had moved from Transylvania to Styria. In earlier life they had not had thyroid disturbances. According to the reports of the patients, neither the parents nor the grandparents had suffered from struma. As a possible cause for the enlargement of the thyroid, Weinberger mentions not only the change of residence but also that all three patients were nulliparous and had passed the menopause. These factors are a probable cause of endocrine disturbances, which in turn led to the enlargement of the thyroid.

Distribution of Blood Groups Among Patients with Leprosy in Livonia.—Weidemann and Kaktin examined the blood groups of 106 inmates of an institution for leprosy. In comparing the percentages of the various blood groups among the general population of Livonia with the results of their examinations on patients with leprosy, they found that among the latter the representation of the groups AB and O was slightly increased. In the general population, however, group B was larger. The authors conclude that there is no evidence that any blood group is predisposed to leprosy. However, they observed that the disease is more frequent among women than among men, and also that certain races are more susceptible than others.

Mitteilungen a. d. Grenzgeb. d. Med. u. Chirurgie, Jena

41: 329-510 (May 17) 1929

*Causes of Increased Incidence of Thrombosis and Embolism in Germany from 1924 to 1927. J. K. Kuhn.—p. 329.
Chronic Osteomyelitis of Vertebral Column and Sacrum. P. Radt.—p. 389.
*Rôle of Endocrine Glands in Pathogenesis of Arthritis. J. Ratner.—p. 402.
Paralytic Ileus. E. F. Müller.—p. 417.
Spastic Ileus. K. Henle.—p. 443.
Urinary Calculosis in Ochronosis. O. Bauer.—p. 451.
Surgery of Pancreas. E. Just.—p. 463.

Causes of Increased Incidence of Thrombosis and Embolism in Germany from 1924 to 1927.—As an illustration of the marked increase in the incidence of thrombosis and embolism in Germany during the past few years, Kuhn reports that from 1921 to 1927 at the Institute of Pathology at Freiburg the percentage of thrombosis increased from 11.3 to 24.5 and the percentage of fatal embolism from 1.3 to 4.9. In 1927 thrombosis was found in every fourth body examined and fatal embolism in every twentieth body. He believes that this increase in the incidence of thrombosis and embolism is due to the increased use of intravenous injections and to the intensive, life-prolonging treatment of patients with chronic heart disease.

Rôle of Endocrine Glands in Pathogenesis of Arthritis.—Ratner states that endocrine disturbances play an important rôle in the pathogenesis of some forms of arthritis. He reports two cases of spondylarthritis, one in a eunuchoid and one in a patient with acromegaly, in which he attributes the arthritic changes to functional disturbances in the hypophysis.

Münchener medizinische Wochenschrift, Munich

76: 775-822 (May 10) 1929

Relation Between Function of Placenta and Degree of Development of Fetus. A. Mayer.—p. 775.
*Relation Between Hypophysis and Ovum and Its Accessory Glands. H. Siegmund.—p. 776.
Criminal Abortion in Thuringia from 1915 to 1926. E. Puppel.—p. 780.
Antigalactic Treatment. W. Mestitz.—p. 782.
Immunization Processes in Syphilis and in Tuberculosis. O. Naegeli.—p. 782.
Use of Diathermic Knife in Surgical Dermatotherapy and Minor Surgery. V. Wucherpfennig.—p. 786.
*Causal Relation Between Trauma and Tuberculosis. G. Magnus.—p. 788.
*Relation Between Nervous Dyspepsia and Tuberculosis. A. Bittorf.—p. 790.
Therapeutic Value of Dextrose. F. Fischler.—p. 791.
*Appendicitis and Influenza. W. Wachsmuth.—p. 792.
Casuistics of Various Forms of Encephalitis. H. Quincke.—p. 794.
*Occurrence of Peculiar Petechiae in Conjunctiva in Endocarditis Lenta. J. Oettinger.—p. 796.
Development of Medical and Pharmacologic Terminology in Turkey. K. Muley.—p. 796.
Various Aspects and Treatment of Angina Pectoris. E. Romberg.—p. 797.
Ueb.

Researches Concerning Relation Between Hypophysis and Ovum with Its Accessory Glands.—Siegmund studied the relative significance of the hypophysis and of the ovum with its accessory glands. He comes to the conclusion that although implantation of hypophysial tissues results in a stimulation of sexual development in mice, this is not absolute proof that the anterior lobe of the hypophysis dominates the sexual function. Observations which were made under normal conditions, and

without experimental disturbance of the physiologic processes, speak against the domination of the hypophysis. During the rhythmic course of the sexual function, the stimulating action of the hypophysis is in certain intervals checked by the action of the corpus luteum. This causes a periodicity in the sexual function, which is determined by the discharge of a ripe ovum and by the function of the corpus luteum.

Causal Relation Between Trauma and Tuberculosis.—Magnus discusses the question whether tuberculosis may be caused by a trauma, from the point of view of compensation and accident insurance. He cites cases of surgical tuberculosis in which trauma actually causes the tuberculosis, and in which, consequently, the patients are entitled to compensation. He also states that tuberculosis in a latent or in a mild form may grow worse after a trauma. Formerly it was nearly generally accepted that minor injuries often lead to tuberculosis. However, this theory now has been abandoned, because experiments and observations have proved that it has no valid foundation.

Relation Between Nervous Dyspepsia and Tuberculosis.—Bittorí gives a detailed description of two cases of severe nervous dyspepsia in tuberculosis. A careful observation of these cases proved that the tuberculous process was not a result of the nervous dyspepsia and of the undernourishment but rather the cause of them. He concludes that, particularly in young persons, nervous dyspepsia is a reaction of the organism to a chronic infection with tubercle bacilli. The tuberculous process exists usually in the latent form, and only later, when the patient's general condition grows gradually worse, it becomes manifest.

Appendicitis and Influenza.—Wachsmuth points out that the prodromal symptoms of influenza often simulate acute appendicitis. In such cases the differential diagnosis between influenza and appendicitis can be based on the following signs: The previous history of the patient reveals the absence of previous attacks; the symptoms of influenza appear soon; leukocytosis is missing and often a relative leukopenia can be noticed; muscular tension is absent. The appendicitis-like symptoms can be traced to various causes: pneumonia, diaphragmatic pleurisy, hyperemia of the intestinal mucous membrane, glandular swellings, hemorrhages into the rectum and neuralgia. An operation should not be performed in these cases. The author points out that occasionally appendicitis occurs simultaneously with influenza. However, such cases are the exception.

Occurrence of Peculiar Petechiae in Conjunctiva in Endocarditis Lenta.—Oettinger asserts that in the cases of endocarditis lenta that take an atypical course, the diagnosis is often difficult. Every typical symptom is therefore not only of theoretical but also of practical value. Libman directed the author's attention to peculiar petechiae which in cases of endocarditis lenta can be detected in the conjunctiva. In all the fourteen cases of this disease which have come under the author's observation since then, he noted this symptom. The petechiae were of various sizes; they were either round or spindle shaped and were dark red. In the center a grayish white dot could be noticed. They are more often found on the lower than on the upper lids.

Wiener klinische Wochenschrift, Vienna

42: 701-732 (May 23) 1929

Venous Pulse Symptoms and Roentgen Picture in Atrioventricular Rhythm. W. Dressler and H. Rösler.—p. 701.
Occurrence of Elementary Substances of Urinary Pigment in Serum. H. K. Barrenscheen and L. Popper.—p. 704.
*Active Immunization Against Diphtheria with Toxoid. D. Hartmann-Karplus.—p. 706.
*Hemorrhages in Gastro-Intestinal Tract: Their Differential Diagnosis. J. Donath.—p. 708.
*Means to Effect a Primary Healing After Operations for Suppurative Abdominal Processes. F. Mandl.—p. 712.
Static-Dynamic Decompensation in Lordosis, Kyphosis, Scoliosis and Paralytic Forms of Thorax. M. Jungmann.—p. 714. C'td.
Spontaneous Pneumothorax in Emphysema. H. Krasso.—p. 716. C'cn.
Value of Artificial Mineral Waters. H. Molitor.—p. 719.
Value of Vegetarian and of Raw Fruit and Vegetable Diet. G. Singer.—p. 721.

Active Immunization Against Diphtheria with Toxoid.—Hartmann-Karplus reports experiences with toxoid in immunization against diphtheria. The vaccinations were performed on 100 inmates of a children's hospital. Seventy-five of these children had scarlet fever and twenty-five had other ailments. The amounts of toxoid injected during each vaccination varied from 0.2 to 1 cc. It was always diluted in 2 cc. of physiologic solution of sodium chloride. The children were divided into four groups of twenty-five each. Tabular reports show that the quantities of toxoid, the number of vaccinations and the intervals between the injections were different in each of these groups. They also indicate whether the children had light, medium or severe reactions, and how many gave a negative Schick reaction. After five weeks seventy-nine had become immune. Reactions such as increased temperature and local inflammations or infiltrations were negligible in eighty-three cases. In fifteen instances they caused some disturbance and in two cases they were severe. The results of the toxoid vaccinations were most favorable among the twenty-five children who were not affected with scarlet fever. A comparison of the four groups also revealed that the best effects were obtained by giving comparatively large amounts of toxoid. However, if the children were given large amounts of toxoid in each injection, the general as well as the local reactions were usually severe. If the same quantity of toxoid was distributed over a larger number of injections, the reactions were less severe. The author points out, however, that the latter method, which requires at least five treatments, is too complicated to be of practical value for a general application. She states that although the results with toxoid are more favorable than the results with other diphtheria vaccines, these experiments did not lead to the discovery of a practical method for its general application.

Hemorrhages in Gastro-Intestinal Tract: Differential Diagnosis.—Hemorrhages of the gastro-intestinal tract are, according to Donath, difficult problems in medical practice. To find the cause of the hemorrhage is absolutely necessary in order to decide on the correct treatment. The author discusses diseases which may cause such hemorrhages and he gives helpful suggestions for the differential diagnosis of such processes as gastric or duodenal ulcers, carcinoma of the stomach, disturbances of the liver or of the circulation of the portal vein, hemorrhagic diathesis, pernicious anemia, jaundice, uremia, typhoid, carcinoma of the large intestine and hemorrhoids.

Means to Effect a Primary Healing After Operations for Suppurative Abdominal Processes.—Mandl points out that after operations for suppurative processes in the abdomen, the drain is usually the cause of the slow and postponed healing process. He therefore attempted to perfect a method which would effect a primary healing. He reasoned that it should be possible to effect a mechanical disinfection by excision of the edges of the wound, and that the drain should be led away from the operative incision by forming a new channel for it. He gives a detailed description of his new method and states that he employed it especially in operations on the gallbladder and in appendicitis. He had good results in most cases. However, he concludes that additional experiences will be necessary before this method can be recommended for general application.

Zeitschrift für Kreislaufforschung, Dresden

21: 281-312 (May 15) 1929

*Etiology of Angina Pectoris. L. F. Dmitrenko.—p. 281.
*Marked Enlargement of Heart. J. Haedicke.—p. 286.
Atrioventricular Automatism. L. J. Fogelson.—p. 290.

Etiology of Angina Pectoris.—Dmitrenko believes that clinicians have exaggerated the importance of syphilis in the etiology of angina pectoris. He states that more consideration should be given to emotional disturbances in the origin and course of this condition.

Marked Enlargement of Heart.—Haedicke reports a case of enlargement of the heart in a man, aged 40, weighing 110 pounds. Although only slight symptoms of cardiac decompensation were present roentgen examination with the tube at a distance of 2 meters (rays practically parallel) revealed that the heart extended 12.5 cm. to the right of the midline and 13 cm. to the left of the midline. Lateral roentgen examination of the chest showed that at the level of the heart both the mediastinum and the vertebral column were invisible because

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of the anteroposterior dilatation of the heart (anteroposterior diameter 22 cm.). If one considers this heart as measuring 26 by 22 by 17 cm. as a sphere with a diameter of 20 cm., its volume may be calculated as liters. Even when 2 liters is subtracted from this amount to allow for the thickness of the myocardium there is still a capacity of about 500 cc. for each of the four cavities of the heart, compared with a capacity of from 50 to 100 cc. in the normal heart.

Zeitschrift für Tuberkulose, Leipzig

53: 385-480 (May) 1929

*Death Rate in Children Living with Persons with Open Tuberculosis. H. Braeuning and M. Neumann.—p. 385.
*Fate of B C G in Organism. W. A. Lubarski.—p. 427.
*Treatment of Pulmonary Tuberculosis with Bilateral Pneumothorax. L. Dünner and S. Spiro.—p. 431.
Rôle of Intrapleural Pressure in Acute Inflammatory Stage of Serous Exudate in Artificial Pneumothorax. B. Papanikolau.—p. 438.

Death Rate in Children Living with Persons with Open Tuberculosis.—Braeuning and Neumann state that the death rate in children living with persons with open tuberculosis is from two and four-tenths to thirty times as high as the general death rate, depending on the age of the patients. They found the highest death rate in children aged less than 1 year and in children aged more than 10 years; the death rate in children aged from 2 to 10 years is much lower. The authors believe that children aged more than 12 years should be more closely observed than children aged from 3 to 10 years.

Fate of B C G in Organism.—In experiments on guinea-pigs Lubarski found that B C G remains in the organism for from six to eight months. The disappearance of the B C G results from accelerated destruction of the bacilli and their elimination in the urine. The immunity produced by vaccination of the new-born does not last more than a year. The accelerated destruction of B C G in the organism and its elimination is proof of the harmlessness of B C G vaccination.

Treatment of Pulmonary Tuberculosis with Bilateral Pneumothorax.—Dünner and Spiro report sixteen cases of pulmonary tuberculosis in which they obtained good results with bilateral pneumothorax. In some of the patients the improvement in the subjective and objective symptoms was so great that they were able to resume their former occupations. In six of the patients the two halves of the thorax were operated on at different sittings; in ten of them both operations were performed at one sitting.

Zeitschrift für Urologie, Leipzig

23: 321-400, 1929

Method for Maintaining Constant Voltage in Cystoscopy. O. Maier.—p. 321.
Diagnosis of Malformations of Urethra and Bladder. E. Langer.—p. 324.
*Large Stone of Female Urethra. F. Garofolo.—p. 328.
*Diagnosis of Ruptured Bladder. J. Minder.—p. 332.
*Treatment of Gout and Uratic Stone Disease. J. Goldberger.—p. 343.
Clinical Aspects of Hydronephrosis. W. Hofmann.—p. 352.

Large Stone of Female Urethra.—Garofolo reports a case of large urethral stone in a strong healthy girl, aged 18, who gave a history of frequent urination. A gynecologist had made a diagnosis of bartholinitis and had treated the patient palliatively without result. Attacks of urinary retention occurred and were treated effectively with warm sitz-baths. The urine was cloudy; in the sediment pus, mucus and blood corpuscles were found. On examination of the external genitalia the hymen was found intact. The right labium majus was reddened and swollen and showed a small opening, corresponding to the excretory duct of the Bartholin gland, from which pus escaped. The vestibulum was swollen; the urethral orifice was likewise swollen and projected forward. A metal sound could be passed into the urethra for a distance of only 1 cm.; at that point it gave the sensation of striking against a stone and could not be passed farther. A diagnosis of urethral lithiasis was made. Under ether and morphine narcosis a small incision was made on the posterior wall of the urethra and a stone weighing almost 50 Gm. and having a circumference of 10 cm. and a length of 7 cm. was removed. In the center of the stone and parallel to its long axis was a hairpin; arranged concentrically around this were layers about 1 mm. thick. Chemical and microscopic examination of the stone revealed that it was composed of urates.

Diagnosis of Ruptured Bladder.—Minder believes that cystoscopy can be used without danger in the diagnosis of ruptured bladder. In a case in which he suspects rupture of the bladder he proceeds as follows: 1. If a diagnosis of ruptured bladder can be made from the clinical symptoms, there is no need for catheterization, irrigation of the bladder, cystoscopy and roentgen examination. 2. If the diagnosis cannot be made from the clinical symptoms, catheterization should be tried first. If operative intervention is not delayed more than from twenty-four to forty-eight hours, catheterization in rupture of the bladder is not accompanied by danger of infection. 3. If catheterization does not give sufficient information with regard to the condition, irrigation of the bladder with small quantities of fluid may be tried. The result of irrigation is of diagnostic value only when the water used disappears; return flow of the irrigation water does not prove that a rupture is not present. 4. If a diagnosis cannot be made from the clinical symptoms, catheterization and irrigation of the bladder, cystoscopy is justified. This must be performed with great care and only by a urologist, and it should never be forced.

Treatment of Gout and Uratic Stone Disease by Administration of Excess of Alkalis.—Goldberger summarizes the treatment of gout and uratic stone disease as follows: The food should contain a marked excess of alkalis. For this purpose raw food as well as food cooked in such a manner that the plant salts are conserved should be used. The deficiency in plant salts can be completely corrected by the addition of alkalis. The titration of the morning urine gives a reliable picture of the acid-base excretion. The administration of alkaline water for increasing the diuresis is harmless even in patients with urinary calculi, if the proper alkalis are used. If the patient already has a large alkali reserve small quantities of meat, eggs, cheese and other foods with an excess of acids may be prescribed, provided the excess of alkali is maintained. Excess alkali treatment is contraindicated in all cases of infected urinary calculi in which the bacteria grow best in an alkaline medium.

Zeitschrift für urologische Chirurgie, Berlin

27: 1-184 (April 9) 1929

*Decapsulation of Kidney in Ascending Infection of Urinary Tract. K. Weiner.—p. 1.
*Primary Cancer of Male Urethra. L. Flamm.—p. 13.
Operative Treatment of Retention of Urine Caused by Rigidity of Internal Sphincter of Bladder. B. von Rihmer.—p. 20.
*Index of Acidosis in Urologic Surgery. M. Sorrentino.—p. 29.
*Rare Localization of a Hypernephroma. G. von Illyés.—p. 39.
*Rare Causes of Unilateral Pyelonephritis. E. Brack.—p. 43.
Anomalies of Kidney and Ureter. H. Schmutte.—p. 47.
Technic of Cystoscopy in Vesicovaginal Fistula. W. Seyfert.—p. 79.
Diagnosis and Treatment of Strictures of Urethra. P. Janssen.—p. 85.
Pyelography in Diagnosis of Cystic Kidneys. O. Hennig.—p. 106.
Concomitant Occurrence of Tuberculosis and Calculi in Kidney. R. Howald.—p. 119.
Histologic Changes in Hypertrophied Prostate Following Roentgen Treatment. K. Wolff.—p. 138.

Decapsulation of Kidney in Ascending Infections of Urinary Tract.—Weiner describes experiments in which he produced ascending infections of the urinary tract in rabbits. In these experiments he demonstrated that virulent infections of the kidneys can occur through the lymphatic vessels of the ureters. He believes that this fact is of great clinical significance; it justifies decapsulation of the kidney and evacuation of cortical abscesses in cases of severe infection of the upper urinary tract. By the use of this method of treatment the author has succeeded in curing a large number of patients. He believes that in severe ascending infections that do not yield quickly to the commonly used conservative methods of treatment and in which there are clinical signs of abscess formation in the kidney, an attempt should be made to conserve the kidney surgically. The therapeutic value of decapsulation and opening of the abscess depends on the relief of tension in the organ, the division of the lymphatic vessels between the kidney and the capsule and the drainage of the pus externally.

Primary Cancer of Male Urethra.—Flamm reports a case of primary cancer of the terminal portion of the urethra in a man, aged 50. He believes that in the majority of such cases

the cancer develops as the result of metaplasia caused by gonorrhea.

Index of Acidosis in Urologic Surgery. — Sorrentino states that the acidosis index (measurement of carbon dioxide tension of alveolar air) is an important test for kidney function. From the prognostic standpoint there is a clear relationship between the severity of the case and the carbon dioxide hypotension. In surgical conditions of the kidneys the index of acidosis should always be determined. In hypertrophy of the prostate the index is of significance in determining whether the case is operable, whether the operation should be performed in one or two stages and how long the interval between cystostomy and enucleation of the adenoma should be.

Rare Localization of a Hypernephroma. — Von Illyés describes a case of hypernephroma, the size of two fists, located at the lower pole of the left kidney in a man, aged 69. In spite of the size of the tumor it could be extirpated radically without removal of the healthy kidney.

Rare Causes of Unilateral Pyelonephritis. — Brack reports two cases of unilateral pyelonephritis caused by aneurysm and echinococcus cyst, respectively, of the left common iliac artery.

Zentralblatt für Chirurgie, Leipzig

56: 1153-1216 (May 11) 1929

*Digestive Processes After Complete Gastrectomy for Carcinoma. M. Bürger and G. E. Konjetzny.—p. 1154.
Fibroma of Internal Oblique Muscle of Abdomen After Appendectomy. L. Adám.—p. 1159.
Tribromethanol Anesthesia. B. O. Pribram.—p. 1164.
Combination Resuscitating Apparatus. O. Loewe.—p. 1169.
Gumma of Penis and Scrotum. L. P. Mariantschik.—p. 1171.
*Operation for Hallux Valgus. W. Raven.—p. 1174.
Crural Hernia of Adnexa. R. Hubrich.—p. 1175.
Action of Roentgen Rays on Growth of Experimental Brain Tumor. R. Demel.—p. 1176.
Growth Disturbances Caused by Roentgen Ray. K. Försterling.—p. 1178.
Growth Disturbances in Bone and Joint Tuberculosis in the Young. W. Anschütz and A. Beck.—p. 1180.

Digestive Processes After Complete Gastrectomy for Carcinoma.—In a case of gastrectomy for carcinoma of the stomach in a woman, aged 49, Bürger and Konjetzny studied the digestive processes with various diets—mixed, carbohydrate, fat and protein. They advise that stomachless persons be fed small portions of mixed food at a time. Fats should be given only in small quantities and emulsified. Feeding should be a very deliberate process to be indulged in slowly. If the fats cause any disturbance, fresh chopped pancreas should be added to the diet. Their patient did very well. After removal of the stomach, a lateral anastomosis was made between the esophagus and the jejunum.

Operation for Hallux Valgus.—Raven does not approve of resection of the proximal half of the bone in the treatment of hallux valgus because the result is not permanent. Removal of all of the bone is advocated on the basis of the good results obtained in 600 patients operated on by him.

Zentralblatt für Gynäkologie, Leipzig

53: 1089-1152 (May 4) 1929

Betterment of Obstetric Practice. H. Sellheim.—p. 1090.
*Roentgenologic Measurement of Oncoming Head in Contracted Pelvis. P. Schumacher.—p. 1110.
Roentgenologic Determination of Configuration of Aftercoming Head. J. Werhoff.—p. 1113.
*Preoperative Determination of Susceptibility to Infection. C. Clauberg.—p. 1116.
*Change in Blood Group of Infants. M. Wachtel.—p. 1119.
Lipoma of Fallopian Tube. Sampoerno.—p. 1123.
Fibromyoma of Fallopian Tube. A. W. Hochloff.—p. 1125.

Roentgenologic Measurement of Oncoming Head in Contracted Pelvis.—Of roentgenologic methods for the determination of the size of the fetal head in women with contracted pelves, the lateral or profile exposure of the pelvis and the anteroposterior exposure with the woman in the Albert sitting posture have proved most promising. Using the first method, Schumacher found that he was able to determine the biparietal diameter of the head with an error of only 2 mm. if the pelvis was normal. If the pelvis was contracted, errors which made the diameter as much as 6 mm. too great or too small, that is, a possible total error of 1.2 cm., occurred. By a combination of the profile exposure with the anteroposterior exposure in the sitting posture, the error was reduced to such a degree as to make the method useful. The two exposures must follow each other as quickly as possible and must be made in intervals between pains. For the profile roentgenogram Schumacher used a distance of 70 cm. from focal point to plate, and for the anteroposterior, a distance of 21 cm.

Preoperative Determination of Susceptibility to Infection.—Assuming that the bacterial organisms most likely to infect the patient with carcinoma of the cervix uteri, who is to be operated on or to have radium application, are those present on the ulcerated surface of the tumor, Clauberg determined the probable resistance of the patient to infection by means of the Philipp modification of the Ruge technic in 200 cases of cervical carcinoma. The method used was as follows: Aerobic blood agar and anaerobic broth cultures are made from material obtained from the tumor to determine the nature of the bacteria present. On the next day blood is taken from the patient by vein puncture and defibrinated. At the same time six loops of material from the tumor is emulsified in 2 cc. of broth. From six to eight loops of the suspension is inoculated into a measured quantity of the defibrinated blood and a poured blood agar plate is made immediately. An equal number of loops of the suspension is inoculated into a quantity of the defibrinated blood equal to that used for the first plate and the mixture is incubated for three hours, at which time a second poured blood agar plate is made. Both plates are incubated for from twenty-four to forty-eight hours. If at this time the second plate shows an appreciable decrease in the number of colonies as compared with the first plate, the patient's resistance is considered favorable. If there is no decrease or an increase, the condition is listed as unfavorable. Of the 200 patients examined by Clauberg, 150 were found to have a favorable resistance; in this group there were ten, or 6.6 per cent, of febrile complications. In fifty the reaction was unfavorable; of these, fourteen, or 28 per cent, had febrile postoperative complications. If all complications were included, such as slight wound infection without fever, the 150 favorable cases showed a total of 10.6 per cent of complications, and the fifty unfavorable cases showed a total of 42 per cent of complications. One hundred and nineteen patients were subjected to operation; ninety-one patients of this group with favorable resistance had 10.9 per cent of inflammatory complications, and twenty-eight patients in an unfavorable condition had 35.7 per cent of complications. Eighty-one patients received radium applications; fifty-nine of these were in a favorable condition and had 6.7 per cent of complications; twenty-two were in an unfavorable state and had 27 per cent of complications. Clauberg believes that the method has prognostic value. The value is limited, however, since approximately 70 per cent of the patients found by the test to have unfavorable resistance had an uncomplicated postoperative course. Clauberg suggests that the test might have greater practical value if it were made the basis of the preoperative active immunization of those patients whose reaction is found to be unfavorable by the test.

Change in Blood Group of Infants. — To determine whether change can occur in the blood group of infants, as was claimed by Happ in 1920, Wachtel determined the blood grouping of 130 infants on the first or second day after birth, on the day leaving the hospital (seventh to fourteenth day), and again during the fourth to sixth week. Since the serum of infants usually has no iso-agglutinating properties during the first year of life, grouping was dependent on the agglutinability of the corpuscles alone. Change in blood group was found to have occurred in only one of the infants studied. At the first examination this infant belonged to group A. At the second examination the infant's corpuscles were strongly agglutinated by group B serum and slightly by group A serum, a change to group AB, which became more marked at the third examination, when the corpuscles were strongly agglutinated by both A and B serums. Even one change in 130 infants tends to invalidate somewhat the forensic value of blood grouping in the determination of paternity. The author points out, however, that at best blood grouping of infants is somewhat unsatisfactory because the agglutinating properties of the serum cannot be determined.

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